

Familiarity Integration in Idiom Classification **A Cross-linguistic Study**

A Thesis submitted to The University of Manchester for the degree of
Doctor of Philosophy in the Faculty of Humanities

2011

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Abstract

This thesis is an experimental study that investigates the idiom decomposition hypothesis and its wider implications on idiom representation and comprehension. It further develops a psycholinguistic model for idiom classification that incorporates semantic compositionality and idiom familiarity. In this thesis, an idiom is defined as: A group of two or more words that has a conventionalized meaning and which might vary in compositionality (from opaque to compositional ones).

A total of one hundred and fifty one Bahraini idioms were collected by the author. These idioms were used in five experiments that investigated the main claims of the idiom decomposition hypothesis: (1) that people can reliably classify idioms into normally decomposable, abnormally decomposable, and nondecomposable; (2) people's intuitions on the semantic analyzability of idioms determine their judgements of the acceptability of syntactic variation. We proposed and investigated the hypotheses that the classification in (1) is contingent on lexical and/or conceptual familiarity, and that the judgements in (2) are contingent on conceptual familiarity. Furthermore, a range of cognitive linguistic analyses were conducted to examine the source and target domains of Bahraini idioms, and determine how these domains as well as the mappings between source and target domains relate to familiarity.

The results of experiments 1 and 2 show that Bahraini speakers agree on the classification of idioms according to their degree of semantic compositionality into normally and abnormally decomposable, but not into the nondecomposable category. This classification is contingent on the lexical and/or conceptual familiarity of idioms because it is difficult to separate the two when testing idioms with native speakers of the language. Experiments 3 and 4 show that English speakers agree on the classification of idioms according to their degree of semantic compositionality into normally decomposable, abnormally decomposable, and nondecomposable. This classification is contingent on the conceptual familiarity of idioms. Experiment 5 indicates that the syntactic flexibility of idioms varies according to the degree of semantic compositionality. However, this variation is affected by the conceptual familiarity of idioms. The cognitive linguistic analyses show that idioms grounded in general human experience are more familiar than those grounded in geo-cultural human experience.

Finally, this thesis proposes the Familiarity Integration Model (FIM) for idiom classification that incorporates semantic compositionality and idiom familiarity. According to the FIM, compositionality is a continuum with three main categories of idioms that partially overlap. The three categories are as follows: (1) idioms with familiar source domains and mappings (normally or abnormally decomposable), (2) idioms with familiar source domains and unfamiliar mappings (abnormally or nondecomposable), and (3) idioms with unfamiliar source domains and mappings (nondecomposable).

Acknowledgements

This thesis would not have been completed without the help of many people both at the academic and personal levels.

First, I would like to thank the University of Bahrain for sponsoring my PhD study at the University of Manchester.

I am grateful to my supervisors: Dr. Paul Bennett (from the School of Languages, Linguistics, and Cultures) and Dr. Louise Connell (from the School of Psychological Sciences) for their help, support, and valuable advice.

I am also thankful to Dr. Martina Faller who has been a member of the research panel. Her comments and advice during our panel meetings have been of great help.

I am also indebted to Mr. Mohamed Jamal and Dr. Ali Al Madani for their help with the collection of Bahraini idioms. I would also like to thank Dr. Ashraf Abdou for his advice on various aspects of this thesis.

At the personal level, I am grateful to my family; and particularly my parents for their motivation and prayers, and my husband for being there for me. I am also thankful to all my friends for their support.

The Author

My education background includes:

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- An MA in Applied English Language Studies, in 2006, from the University of Bahraini. As part of the MA requirements, I wrote a dissertation on *Grice's Maxims as a tool of assessing the efficiency of ESP writing with special reference to Business English*.

I received two awards from the Prime Minister of the Kingdom of Bahrain:

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- Honorary Distinction Award for postgraduate students – Education Day (2007).

My work history has mainly been at the University of Bahraini where I worked as Research and Teaching Assistant from 2002 until I started my PhD in 2008.

I presented the work I have done as part of this thesis at several occasions:

- I presented a poster at the Researcher Showcase/ Manchester Museum - 11th July 2009
- I also presented a paper on “Source and target domains of Bahraini idioms” at CRAL 09 - 29th Oct. – 1st Nov. 2009.
- I presented a paper on “Semantic compositionality of idioms: effects of familiarity” at the 5th Lancaster Postgraduate Conference in Linguistics and Language Teaching. University of Lancaster – 5th July 2010.

During my PhD study at the University of Manchester, I participated in the organization of some events such as:

- Organizing the 18th PGR conference in Linguistics which was held on 6th May 2009.
- Organizing the 1st Peer Presentation Day at the Department of Linguistics and English Language which was held on March 17, 2010.

Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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1 Chapter one: Introduction

This chapter addresses some introductory points. Section 1.1 provides an overview of the study. Section 1.2 outlines the research questions. Section 1.3 provides some background about Bahrain from linguistic and historical perspectives. Section 1.4 provides some definitions and characteristics of idioms. Sections 1.5 and 1.6 discuss the traditional and compositional views of idioms. Section 1.7 addresses the relation between metaphors and idioms. Finally, section 1.8 outlines the structure of the thesis.

1.1 Overview of the study

Idioms are pervasive in everyday language to the extent that even when explaining an idiom, one might find himself/herself using another. Idioms are very easy to use and comprehend for native speakers of the language while for second language learners, learning them is a challenge.

This thesis is an experimental study that investigates the idiom decomposition hypothesis and its wider implications on idiom representation and comprehension. It further develops a psycholinguistic model for idiom classification that incorporates semantic compositionality and idiom familiarity. This study may offer insight into the relationship between language and thought. It may provide further support for the idea that idioms are not dead metaphors.

Due to the complexity of idioms, there is not a single answer to the question of how idioms are understood. Gibbs (1993) says that “it seems increasingly likely that no single theory or model can account for all kinds of idioms and all kinds of discourse situations (both conventional and literary)” (p.75).

Studying Bahraini idioms can yield some insights into the Bahraini culture. It might shed light on the conceptualization involved in figurative expressions, such as idioms, in Bahraini Arabic. Studies of idioms from a cross-cultural perspective can help us gain insight into the universality and variation of conceptual metaphor in general, and in languages under investigation, that is English and Arabic, in particular. It might also help us understand how speakers use conceptual knowledge to comprehend figurative expressions from another language.

1.2 Research questions

This thesis addresses the following questions:

1. Do Bahraini speakers agree on the classification of idioms according to their degree of semantic compositionality into normally decomposable, abnormally decomposable, and nondecomposable as predicted by Gibbs and Nayak's idiom decomposition hypothesis? And is this classification contingent on the lexical and/or conceptual familiarity of idioms?
2. Do English speakers agree on the classification of idioms according to their degree of semantic compositionality into normally decomposable, abnormally decomposable, and nondecomposable as predicted by Gibbs and Nayak's idiom decomposition hypothesis? And is this classification contingent on the conceptual familiarity of idioms?
3. Does the syntactic flexibility of idioms vary according to the degree of semantic compositionality as predicted by Gibbs and Nayak's idiom decomposition hypothesis? And is this variation affected by the conceptual familiarity of idioms?

4. How are idioms grounded in human experience based on their source domains as claimed by conceptual metaphor theory? And how do people conceive the familiarity of idioms given this grounding?
5. How does the familiarity with the source domain and/or mappings affect the compositionality of idioms?

1.3 Bahrain: Social and linguistic background

Bahrain is a Muslim country, but the salient feature of its social composition is the division of the native population into two roughly numerically equal religious groups: Sunni (orthodox) Muslims and Shi'i Muslims. These two groups are further split into sub-groups. The Sunni group consists of the Bedouin, known as 'Arab or tribal 'Arabs, as well as the descendents of settlers from the Persian side of the Gulf known as Hwala (Arabised Persians). The Shi'i group is similarly split into the Baharna that is the Arabic-speaking Shi'a, and the Ajam (Persians) who are the Iranian Shi'a (Holes, 1987).

The two main dialects in Bahrain are those of the 'Arab and Baharna. These two varieties of Arabic have some clear and consistent differences in phonology, morphology and lexicon. Nevertheless, the 'Arab dialect seems to be socially dominant and that is linguistically reflected in many ways. Holes (1987) states that

In all attempts, spoken or written, at representing "typical" or "ordinary" Bahraini speech, it is 'Arab dialectal forms which are predominantly used. On the radio and television, soap-operas, women's programmes and children's hour are all acted or presented in the 'Arab dialect. The same is true of popular literature – stories, poetry and drama which have a local setting are written in an orthography which gives an approximation of 'Arab speech. (p.16)

The focus of this study is the 'Arab dialect.

1.4 What are idioms?

The traditional view defines idiom as a construction whose meaning cannot be derived from the meanings of its constituents (e.g., Weinreich, 1969; Katz and Postal, 1963). For example, when interpreted figuratively, an idiom like *spill the beans* means to reveal a secret or divulge information; it does not simply mean to inadvertently pour legumes on the floor. However, subsequent studies (e.g., Nunberg, 1978; Nunberg, Sag, and Wasow, 1994) have shown that at least some idioms are, in fact, compositional. Semantic compositionality refers to the fact that the constituents of some idioms “carry identifiable parts of the idiomatic meaning” (Nunberg, Sag, and Wasow, 1994, p.496). Hence, the constituent *beans*, corresponds to a secret and *spill* to its revelation.

Idioms occupy a region in a multidimensional lexical space, characterized by a number of distinct properties: semantic, syntactic, poetical, discursive, and rhetorical (Nunberg et al., 1994). When an expression like *kick the bucket* is said to be a prototypical idiom, this judgement is probably based on a number of orthogonal properties of the phrase. Nunberg et al. (p. 492) summarize them as:

- Conventinality: “Idioms are conventional: their meaning or use can’t be predicted, or at least entirely predicted, on the basis of a knowledge of the independent conventions that determine the use of their constituents when they appear in isolation from one another.” For example, the meaning of the words *kick*, *the*, and *bucket* do not produce the meaning ‘die suddenly’.
- Inflexibility: “Idioms typically appear only in a limited number of syntactic frames or constructions, unlike freely composed expressions.” For instance, most English speakers agree that a sentence such as *The bucket was kicked by the man* does not retain its figurative meaning.

- Figuration: Idioms typically involve metaphors (*take the bull by the horns*), metonymies (*lend a hand*), hyperboles (*not worth the paper it's printed on*), or other types of figuration.
- Proverbiality: "Idioms are typically used to describe and implicitly to explain a recurrent situation of particular social interest", for example divulging a secret, in virtue of its resemblance or relation to a scenario involving homey, concrete things and relations like spilling beans.
- Affect: "Idioms are typically used to imply a certain evaluation or affective stance toward the things they denote."

Gabbs and Nayak (1989) agree with Nunberg et al. that idioms are partially analyzable. They offer some useful insights with regard to how parts of idioms can be assigned meanings that contribute to the expression's figurative interpretation.

- First, parts of idioms can be modified, either by insertion of adjectives, as in *leave no legal stone unturned*, or by means of relative clauses, as in *Your remark touched a nerve that I didn't know existed*.
- Second, some parts of idioms can be quantified, as in *Pull a string or two*.
- Third, other parts of idioms can be emphasized through topicalization, as in *Those strings he wouldn't pull for you*.

Grant and Bauer (2004) define idioms as a type of multi-word unit. A multi-word unit can be defined as a fixed and recurrent pattern of lexical material sanctioned by usage. Therefore, multi-word units encompass idioms and open and restricted collocations.

They propose two strict criteria to be used to define idioms, which must be multi-word units (consisting of at least two words). These criteria are: non-compositional and non-

figurative. In order to distinguish a 'core idiom' from other idioms found in idiom dictionaries, Grant and Bauer (p. 52) use the following test:

1. Is the meaning of the multi-word unit retained if you replace each lexical word in the multi-word unit with its own definition?

Y= compositional N= non-compositional

2. Is it possible to understand the meaning of the multi-word unit by recognizing the untruth and pragmatically reinterpreting it in a way that correctly explains the multi-word unit?

Y= figurative N= non-figurative

3. Is there only one word in the multi-word unit which is either not literal or non-compositional?

Y= one non-compositional element

N= more than one element is non-compositional

- If we answer NO to these three questions, the multi-word unit is a 'core idiom'.
- If we answer YES to any of these three questions, the multi-word unit is *not* a 'core idiom' (may be compositional, figurative, or having only one non-compositional element)

When the test was applied to p. 100 of the *Cambridge idioms dictionary*, none of the twelve idioms clearly passed the Idioms Test and would be judged to be a 'core idiom', with eight deemed to be 'figuratives', two having 'one non-compositional element', one figurative or compositional, and one compositional. Furthermore, when applied to p. 100 of the *Collins COBUILD idioms dictionary*, none of the seven clearly passed the Idioms Test and would be judged to be a 'core idiom', with three deemed to be 'figuratives' and four having 'one non-compositional element'. Therefore, none of the

nineteen idioms chosen at random from the same page in two different idiom dictionaries would be considered ‘core idioms’ (Grant and Bauer, 2004).

The criteria Grant and Bauer propose is very narrow to the extent that only noncompositional idioms such as *kick the bucket* would be considered as ‘core idioms’. Semantically compositional idioms such as *pull strings* are not ‘core idioms’ in their view.

Langlotz (2006) provides a comprehensive definition of idiom that covers different parameters such as institutionalization, frozenness, and non-compositionality that other theories do not cover. The definition is as follows:

An idiom is an institutionalized construction that is composed of two or more lexical items and has the composite structure of a phrase or semi-clause, which may feature constructional idiosyncrasy. An idiom primarily has an ideational discourse-function and features figuration, i.e. its semantic structure is derivationally non-compositional. Moreover, it is considerably fixed and collocationally restricted. (p.5)

Institutionalization is used in this definition to refer to an idiom’s degree of familiarity and conventionality within a given speech community (Fernando, 1996). Compositeness refers to the fact that idioms are multi-word units. Fixedness denotes syntactic and morpho-syntactic restrictions (i.e. syntactic frozenness) while restricted collocability refers to paradigmatic constraints on the selection of lexical items (i.e. lexical frozenness).

For the purposes of this study, I define an idiom as

A group of two or more words that has a conventionalized meaning and which might vary in compositionality (from opaque to compositional ones).

This definition extracts the common features of idioms from the definitions above. It has a lot in common with Nunberg et al. (1994) and Gibbs and Nayak (1989) who both

view idioms as conventional and partially analysable. It diverges from the long-standing traditional view of idioms as being noncompositional because each internal component actually contributes to the idiom's holistic meaning. For example, in an idiom like *spill the beans*, the constituent *beans*, corresponds to a secret and *spill* to its revelation.

1.5 The traditional view of idioms

Transformational generative models such as Weinreich (1969), Katz and Postal (1973), and Fraser (1970) view idioms as noncompositional, unanalysable, and unmotivated semantic units. Within this view, the syntactic behaviour of idioms is usually restricted. This is what Fraser (1970) calls “frozenness” while Weinreich (1969) calls it “transformation deficiency”. They state that idioms are unable to admit all grammatically possible transformations. Fraser (1970) provides a frozenness hierarchy that is supposed to show that transformational restrictions apply to idioms in terms of a seven-level scale. Along this hierarchy, idioms range from those which can undergo almost all transformations without losing their idiomatic meaning (such as, *lay down the law*) to those idioms that cannot undergo the simple transformations without losing their idiomatic meanings (e.g., *face the music*). This model is criticized for not being based nor tested against empirical data and for not explaining why some idioms are transformationally more deficient than others (Gibbs and Nayak, 1989; Langlotz, 2006). Also, Gibbs and Gonzales (1985) questioned the extent to which the organization of Fraser's frozenness hierarchy may be representative of most English speakers' mental lexicon

1.6 The compositional view of idioms

Contrary to the traditional view, the compositional view claims that idioms can be assigned an internal semantic structure which makes them semantically motivated and

analyzable (Nunberg, 1978; Wasow et al., 1983). Nunberg et al. (1994) consider the traditional view of idioms as non-compositional semantic units as too simplistic. They interpret idiomatic compositionality in terms of “whether a native speaker would recover the sense of the idiom on hearing it in an ‘uninformative context’” (Nunberg et al., 1994: 495). They challenge the traditional view by presenting a top-down notion of analyzability:

To justify this claim [that idioms have a simplex semantic representation] for any particular case, however, it has to be shown not just that the meaning of the idiom could not be predicted on the basis of a knowledge of the meanings of its parts, but that once the meaning of the idiom is known (say by hearing it used in a sufficiently informative context), it cannot be devolved on the constituents of the expression. And this is not entailed by simple nonpredictability. (Nunberg et al., 1994: 496)

Based on the above analysis, they propose two classes of idioms: idiomatically combining expressions (semantically compositional) and idiomatic phrases (non-compositional). They define the former as follows:

To say that an idiom is an idiomatically combining expression is to say that the conventional mapping from literal to idiomatic interpretation is homomorphic with respect to certain properties of the interpretation of the idiom’s components. (Nunberg et al., 1994: 496)

For example, the idiom *pull strings* is compositional. In this idiom, both constituents (*pull* and *strings*) can be assigned separate semantic interpretations in a top-down analysis. Thus, *strings* refers to ‘personal connections’ and *pull* means ‘exploit (the connections)’. These meanings can be created although the idiom is not predictable through bottom-up composition (i.e., the meaning of the words *pull* and *strings* do not produce the meaning “exploit personal connections”). The expression is considered compositional because the two constituents (*pull* and *strings*) can only be assigned individual figurative meanings when they co-occur (i.e., they do not have autonomous

figurative meanings but their derived meanings are activated once they appear in the conventionalized expression *pull strings*.) This is what Nunberg et al. call ‘analyzability’ and it refers to the fact that in some idioms, elements of the idiomatic meaning can be distributed over the literal elements (Langlotz, 2006).

The second class of idioms Nunberg et al. propose is the noncompositional phrases which include idioms that are not semantically decomposable such as *kick the bucket*, *saw logs* and *shoot the breeze*. Nunberg et al. argue that to *saw logs*, which means to sleep and/or snore, is a noncompositional phrase in spite of the fact that this phrase can be seen as transparent (motivated) because there is obvious resemblance between the sounds produced while sawing logs and sleeping (Nunberg et al., 1994: 497) (idiom motivation will be discussed in details in section 1.8).

The compositional view explains the syntactic behaviour of idioms in semantic terms. Nunberg et al. predict a strong correlation between semantic analyzability and transformational productivity. Therefore, the figurative meaning of decomposable idioms can be retrieved even when these expressions undergo transformations such as: quantification (*touch a couple of nerves*) and passivisation (*the beans were spilled by John*). However, if nondecomposable idioms undergo the same transformations, only the literal reading is possible; for example, quantification (*he kicked a couple of buckets*) and passivisation (*the dust was bitten by John*) (Nunberg et al., 1994: 500-503).

One major criticism against the compositional view is that there are no clear correlations between syntactic flexibility and idiom analyzability. For example, Abeillé (1995) did a corpus study in which she analysed different syntactic operations such as raising, passive, cleft sentences and adnominal modification. She concluded that although semantic factors play an important role in accounting for the syntactic

flexibility of idioms, a systematic decomposition of the idiomatic meaning is not always helpful. For instance, some French idioms are opaque (non-compositional), but they can undergo passivisation, as in *prendre le taureau par les cornes* (take the bull by the horns) (Abeillé, 1995:24). Furthermore, she found no correlation between NP extraction (topicalisation and clefting) and semantic decomposability.

It can be concluded here that semantic decomposability may not be the sole predictor of syntactic flexibility. There might be other factors that affect syntactic flexibility such as familiarity which will be introduced in section 3.6.

1.6.1 Idiom motivation

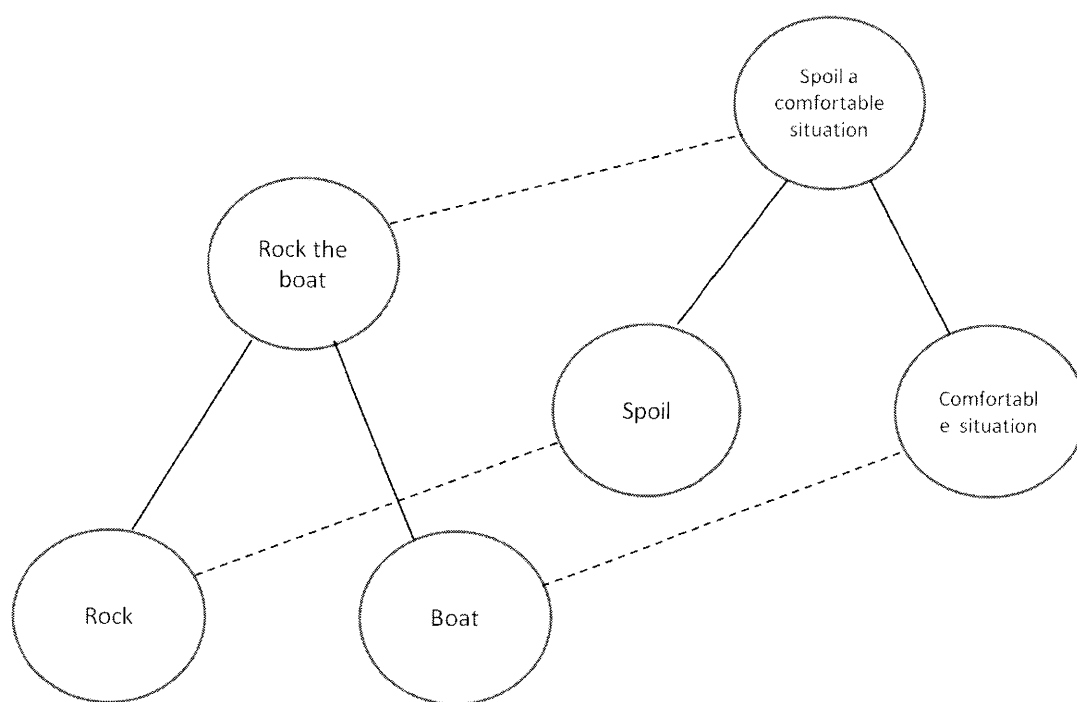
The term motivation refers to “a speaker’s ability to make sense of an idiomatic expression by reactivating or remotivating their figurativity” (Langlotz, 2006:45). For example, the figurative meaning of the idiom *the tip of the iceberg*, which means part of a serious problem or situation, is motivated by the speaker’s knowledge about icebergs and the kind of problems they may cause for navigation. Langlotz (2006) identifies two sub-types of motivation: global and constituent:

An idiom reflects *global motivation* if the semantic extension from the literal to the figurative scene is still transparent. Thus, for *rock the boat* the relationship between the literal scene (ROCK THE BOAT) and its figurative interpretation (SPOIL A COMFORTABLE SITUATION) seems well-motivated: when someone rocks a boat, the boat is likely to be overturned; this, obviously, spoils the more satisfactory previous state or situation (p. 113).

Constituent motivation appears with idioms whose constituents possess *lexicalised figurative senses* that also appear outside the phrasal context of the idiom. [...]. For instance, *swallow* has the lexicalised figurative sense ‘accept patiently’. This meaning is present in idioms like *swallow the bitter pill* (accept an unpleasant fact) or *strain at a gnat and swallow a camel* (accept a major wrong thing while being concerned with a minor one) (p.113).

These two sub-types of motivation are derived from Geeraert's prismatic model of idiom semantics (Geeraerts, 1995; Geeraerts, 2003). His model aims to describe the internal semantic relationships within idiomatic expressions. His notion of motivation would be best explained through an example as in Figure 1.1 below.

Figure 1.1 An example explaining Geeraerts' prismatic model (based on Geeraerts, 2003: 438)



The global motivation of the idiom *rock the boat* (represented by dashed lines in figure 1.1) involves the relation between the literal meaning of the idiom as a whole (rock the boat) and its figurative meaning (spoil a comfortable situation). It also involves the relations between the constituents (rock and boat) and their figurative interpretations (spoil and comfortable situation). The constituential motivation (represented by solid lines in figure 1.1) involves the relations between the constituents (rock and boat) and the literal meaning of the idiom as a whole, as well as the relations between the

figurative interpretations (spoil and comfortable situation) and the figurative meaning as a whole.

Both motivation and analysability are the result of top-down processes that identify conceptual or image-schematic correspondences between the literal and the figurative meanings of an idiom. Therefore, both dimensions can be seen as cognitively related (Langlotz, 2006). Langlotz claims that analysability cannot exist without motivation, while the opposite is possible. This view is supported by Nunberg et al. (1994:497) who state:

When you hear *spill the beans* used to mean ‘divulge the information,’ for example, we can assume that *spill* denotes the relation of divulging and *beans* the information that is divulged, even if we cannot say why *beans* should have been used in this expression rather than *succotash*.

Therefore, the idiom *spill the beans* does not have a fully transparent global motivation because of the constituent *beans*. This expression is analyzed through the conceptual metaphors IDEAS ARE OBJECTS and MIND IS A CONTAINER. Hence, this idiom is motivated and its analysability is an effect of the idiom’s motivation. Nevertheless, the expression is not fully motivated because of the lack of rich conceptual similarities between *beans* and *secrets* (Langlotz, 2006).

Examples of idioms that are neither motivated nor analysable are *kick the bucket*, *buy the farm*, and *bite the dust*. The idiom *buy the farm* for instance can be related to COMMERCIAL TRANSACTION; however, there is no conceptual ground to map commercial transaction to the idea of dying. Also, the constituents ‘buy’ and ‘farm’ are not related to the meaning ‘to die’. Therefore, the idiom is considered opaque (Langlotz, 2006).

Analysability, on the other hand, cannot exist without motivation. For instance, the idiom *spin one’s wheels*, which means to fail to achieve anything satisfactory or to

stagnate, is fully motivated but not analysable. This idiom is motivated by the conceptual metaphors PURPOSEFUL ACTIVITY IS A CAR JOURNEY and SUCCESS IS MOVING FORWARD. However, it is not possible to form analyzable correspondences between the constituents *spin* and *wheels* and their correspondents in the figurative meaning (Langlotz, 2006).

Some remarks should be made with regard to motivation. First, cognitive motivation of an idiom does not always correspond to its etymological origin (Langlotz, 2006). Some speakers can remotivate the semantic structure of some idioms even though they do not know their etymological origin. Therefore, Langlotz argues that motivation should be seen as a synchronic process that depends on the contemporary language user's conceptual knowledge rather than the diachronic development of the idiom.

Second, not all idioms have full literal meaning. This could happen for different reasons. First, the idiom may contain some unique constituents that do not appear outside the context of the idiom. For example, the word *gaff* in *blow the gaff* does not have a literal meaning to many speakers (Langlotz, 2006). Such constructions are called *cranberry collocations* (from *cran-* in *cranberry* which is opaque to most English speakers, Moon, 1998:21). Second, the idiom may reflect constructional idiosyncrasy: "That is, the integration of the lexical units does not proceed in accordance with any constructional schema that underlies other conventional grammatical constructions" (Langlotz, 2006:112). These expressions are also called *ill-formed* or *extragrammatical* (Moon, 1998:21; Fillmore, Kay, and O'Connor, 1988:505). An example of such expressions is *trip the light fantastic* which means 'to dance'. Finally, the idiom may contain a highly specialized item that is not known to most speakers of the language, although it might appear outside the context of the idiom. An example of such items is the word *bushel* (unit of volume equal to eight gallons) in *hide your light under a bushel*

(not show one's true talents). This item cannot be regarded as cranberry morph because it has a separate entry in contemporary English dictionaries (Langlotz, 2006:133). Idioms that display some or all of the features above are called *literally non-compositional* idioms (Langlotz, 2006:112).

Third, idiom motivation depends on the speaker's knowledge of the world and hence varies from one speaker to the other. For instance, a speaker who is interested in boxing may easily draw correspondences between the literal and figurative meanings of the idiom *throw in the towel* unlike a speaker who does not have enough knowledge about this sport (Abdou, 2009).

Fourth, the degree of idiom motivation could be influenced by the presence of garden-path constituents (words with homonymous or polysemous meanings) (Langlotz, 2006:133). The speaker's inability to activate the specific subsense of a constituent may block global motivation. A prototypical example of an opaque idiom in English is *kick the bucket*. For many speakers, the etymological origin of the idiom is a suicidal hanging scenario in which the agent kicks the bucket, gets strangled and consequently dies. The more realistic etymological explanation in Langlotz' (2006) view is the ancient method of slaughtering pigs in which the pigs' feet were tied to a beam – the bucket – to prevent them from kicking out and then to hang them up by the heels once they were killed. The pigs kicked the bucket for the last time as they died and this was considered as an indication for death. Therefore, *kick the bucket* has a metonymic relation to the meaning 'die'. The word bucket is a homonym for 'beam as used in butchering' which is a highly specialized term. Due to people's inability to access this knowledge, the word *bucket* works as a garden-path constituent and makes people activate the homonym 'pail as in the suicidal scenario' rather than 'beam'.

Fifth, motivation does not imply that the idiomatic meaning is predictable on the basis of the literal reading (Langlotz, 2006). Finally, motivation may be lost or weakened as a result of cultural changes. The background concept of an idiom is usually part of the material or the immaterial culture of the language community. Therefore, when the culture changes, the global motivation may lose its power (Geeraerts, 2003). For instance, most speakers nowadays do not know the origin of the idiom *break a leg* which is used to wish somebody good luck. The origin of the idiom *break a leg* to wish a performer good luck before a performance goes back to the superstition that it would be bad luck to wish somebody good luck. As a result, people wished their fellow actors good luck by wishing them bad luck (e.g., broken leg).

We conclude from the above discussion that motivation is closely related to compositionality/analysability. Motivation may exist without analysability while analysability cannot exist without motivation. Therefore, we can say that motivation (global and constituent) contributes to analysability to some extent.

We can also notice that motivation is broadly related to the idea of conceptual familiarity as proposed in this thesis. Global motivation seems to be related to the familiarity of the source domain and the mappings. We mentioned earlier that global motivation involves the relation between the literal meaning of the idiom as a whole and its figurative meaning and this can be related to the familiarity of the source domain. If someone is familiar with the source domain of the sea and sailing then s/he might draw associations between the idiom *rock the boat* and its figurative meaning. Moreover, global motivation involves the relations between the constituents of an idiom and their figurative interpretations and this can be related to the familiarity of the mappings. If someone can draw correspondences between the constituents (rock and boat) and their

interpretations (spoil and comfortable situation), then this may imply that the mappings between the source and target domains are familiar.

The role of conceptual familiarity in idiom comprehension will be discussed in detail in section 2.3.1.

1.7 Metaphors and idioms

Idiomaticity has been viewed as a matter of degree rather than an “all-or-nothing” property of a string (see for example, Fernando, 1978; Fernando and Flavell, 1981). As a result, the notions of literal and figurative can be seen as two endpoints on a continuum along which different types of expressions can be situated based on their level of literality, idiomaticity, or metaphoricity.

The life cycle of an idiom in its progression from a metaphor has been described by Hobbs (1979). First, a metaphor is creative and alive: one can notice the transfer of information from one conceptual domain to another and the existence of some inferential paths (mappings) facilitates understanding. Then, the metaphor becomes familiar and the inferential path becomes well established and therefore less complex. After that, the metaphor becomes “tired” and direct links are formed between the two domains. Finally, the metaphor is dead and the metaphorical origin of the expression cannot be traced (i.e., at this stage, the expression is an idiom). However, the dead metaphor view has been refuted later by several studies (e.g., Gibbs and O’Brien, 1990; Nayak and Gibbs, 1990) that have shown that idioms are actually motivated and that they can retain their metaphoricity.

Gibbs (1993) demonstrates how idioms are not dead metaphors. Rather, he argues, they are unconsciously conventional. Many idioms such as *break a leg* are considered as dead metaphors simply because contemporary speakers have little understanding of the

original metaphorical roots of the idioms. They think that *break a leg* means ‘to wish someone good luck’ as a matter of convention, while in fact the origin of this idiom goes back to a superstition as was discussed in section 1.6.

We conclude that idioms are conventionalized metaphors. People mistakenly conceive things that are alive and active in our cognition as those that are conscious. However, the most alive things and deeply entrenched are those that are so automatic as to be unconscious (Lakoff and Johnson, 1980). If conceptual metaphors were not alive in our conceptual system, we would not be able to understand novel, poetic language, for instance. Similarly, “our understanding that many idiomatic phrases have the figurative meanings they do is due to our ability to conceptualize experience in a metaphorical manner” (Gibbs, 1993: 61).

1.8 Structure of the thesis

This thesis investigates the claim that people can reliably classify idioms into normally decomposable, abnormally decomposable, and nondecomposable, and whether this classification is contingent on lexical and/or conceptual familiarity. It also investigates the claim that people’s intuitions on the semantic analyzability of idioms determine their judgements of the acceptability of syntactic variation, and whether these judgements are contingent on conceptual familiarity. The thesis also proposes a psycholinguistic model for idiom classification that incorporates semantic compositionality and idiom familiarity.

This thesis is divided into six chapters. Chapter two is a literature review. It focuses on the main psycholinguistic models of idiom comprehension. In addition, it discusses some critical effects of idiom comprehension.

Chapter three is an experimental one. It covers five experiments that were conducted to test the idiom decomposition hypothesis; each with its own methodology, results, and discussion sub-sections. Chapter four provides some background on the conceptual metaphor theory. This is then followed by two studies: the first investigates the source and target domains of Bahraini idioms, while the second examines the familiarity with the mappings.

Chapter five demonstrates the role of familiarity in semantic composition and syntactic flexibility. It also presents the Familiarity Integration Model as a new model that combines semantic composition with familiarity. Finally, the major findings of this thesis are summarized in chapter six.

2 Chapter 2: Models of idiom comprehension

Psycholinguistic research into idiom processing has addressed different questions such as how idioms are recognized; how they are stored in the mental lexicon; and whether the idiomatic meaning is retrieved before, after, or simultaneously with the literal meaning. These questions have yielded two types of models that center around the compositionality of the idiom. Semantic compositionality refers to the fact that the constituents of some idioms “carry identifiable parts of the idiomatic meaning” (Nunberg et al., 1994: p. 496). For example, in *pop the question*, there is a clear correspondence between *pop* and *question* and some parts of the figurative meaning “propose marriage”. However, in other idioms like *kick the bucket*, there is no sense in which *kick* and *bucket* correspond to parts of the meaning of “die suddenly” (Tabossi et al., 2009). The first type of these models views idioms as noncompositional (this type of models is based on the traditional view of idioms as was discussed in section 1.5) and that idiom comprehension is unique and different from ordinary language processing. This type is represented by the idiom list hypothesis (Bobrow and Bell, 1973), and the lexical representation hypothesis (Swinney and Cutler, 1979). The second type of models views idioms as compositional (this type of models is based on the compositional view of idioms as was discussed in section 1.6) and treats idioms as no different in principle from ordinary language. This type includes the configuration hypothesis (Cacciari and Tabossi, 1988) and the idiom decomposition hypothesis (Gibbs and Nayak, 1989). We also review in this chapter other views of idiom comprehension such as the conceptual metaphor hypothesis (Gibbs et al., 1997).

This chapter is divided into four sections. The first section provides a review of the noncompositional models. The second section discusses the compositional models. The

third section reviews some alternative views of idiom comprehension. Finally, the last section discusses some critical effects of idiom comprehension.

2.1 Noncompositional models

2.1.1 Idiom list hypothesis

Bobrow and Bell (1973) proposed that idioms are stored in and accessed from a special list which is not part of the normal lexicon. When an idiom is encountered, the literal meanings of the words are first examined. Then, if the literal analysis fails, the idiom list is searched. If the word string is found in the list, then the listed idiomatic meaning is taken to be the intended meaning. In other words, a construction's idiomaticity can only be realized if it cannot be understood as a standard literal expression. However, the exact manner in which idioms are located in this processing mode is vaguely defined by this model. The claims of the idiom list hypothesis were later rejected (see, for example, Swinney and Cutler, 1979, below). Furthermore, many subsequent studies have shown that the idiomatic meaning can be processed faster than the literal one: see for example Gibbs (1980, 1986), and Gibbs and Gonzales (1985).

2.1.2 Lexical representation hypothesis

Swinney and Cutler (1979) proposed the lexical representation hypothesis which claims that, due to the lack of semantic compositionality, idioms are stored and retrieved from the lexicon in the same manner as any other lexicalised word and that the literal and idiomatic meanings are processed concurrently. The retrieval process starts as soon as the first word of an idiomatic string is encountered and runs in parallel to the computation of the literal meaning. Yet, given that computation usually takes longer than retrieving, the idiomatic meaning may be identified more quickly than the literal meaning. In order to evaluate this hypothesis Swinney and Cutler (1979) employed a

task to measure the time course of the access and processing of literal and idiomatic strings. The hypothesis behind this task is that if idiomatic meanings are computed by reference to a special idiom list or via a special mode of processing, then the phrase classification decisions for idioms would take longer than nonidiomatic phrase controls. However, if the lexical representation hypothesis holds, decisions made to idiomatic strings should be faster than those made to literal word strings. The results showed that the idioms were judged to be acceptable English phrases far more quickly than their matched controls. These data support the lexical representation hypothesis; idioms appear to be stored and accessed as lexical items, neither from some special list that is distinct from the lexicon nor by a special processing mode which comes into play when literal analysis fails.

Subsequent studies have shown that even when a word string has a highly conventional meaning, the most frequent meanings of the individual words would be activated in addition to the idiomatic meaning. In other words, people cannot completely bypass the literal meanings of the words, no matter how conventional an idiom may be (see Cacciari and Tabossi, 1988, and Gibbs and Nayak, 1989 below).

2.1.3 Conclusion

Both the idiom list hypothesis and the lexical representation hypothesis share the assumption that idiomatic meaning is semantically distinct from the meanings of the constituents. However, compositional models, which are reviewed in the next section, show that some relationship can exist between the overall idiomatic meaning and the individual meanings of the constituents.

2.2 Compositional models

2.2.1 The configuration hypothesis

The configuration hypothesis (Cacciari and Tabossi, 1988) assumes that idiomatic meaning is not encoded as a separate lexical entry but as a meaning that is associated with a particular configuration. According to this view, when an idiom is first encountered, the literal meaning is always activated until enough information builds up in the string to render the expression recognizable as a memorized expression. Only then is its figurative meaning retrieved. Using a cross-modal priming paradigm, Cacciari and Tabossi found that when the idiomatic string was predictable, people were faster at performing a lexical decision to idiomatically related targets than to literally related targets. For example, the idiomatic meaning of the expression “he was in seventh *heaven*” was activated faster than the literal meaning of “he was in seventh *place*”. They also found that when the string was not recognizable as idiomatic until its completion, then subjects were faster on the target literally related to the last word. In a later study, they presented target words 300 ms after the end of the idiom was heard and they found that lexical decision was faster both for targets related to the last word and for the idiomatic meaning of the string. These findings suggest that word meanings are actually accessed and may play important role in the use and comprehension of idiomatic expressions.

2.2.2 Idiom decomposition hypothesis

Compositionality has been central to competing theories of idiom comprehension. Gibbs and Nayak (1989) proposed the idiom decomposition hypothesis (hereinafter IDH) which states that the syntactic behaviour of idioms is determined, to a large extent, by speakers’ assumptions about the way in which parts of idioms contribute to

their figurative interpretations as a whole. In other words, the more analyzable an idiom, the more likely that expression is syntactically productive.

Gibbs and Nayak (1989) suggest that idiomatic phrases exist on a continuum of analyzability ranging from those idioms that appear to be highly decomposable (e.g., *pop the question*) to those that can be viewed as semantically nondecomposable (e.g., *kick the bucket*). Idiom decomposition can be characterized in terms of *semantic fields*, clusters of lexical items that share some nuclear concept or feature or which go together because they pertain to the same knowledge about some event or to the same “experiential gestalt”. According to this view, lexical items in a field can be related paradigmatically or syntagmarically. Paradigmatic relations exist when the meanings of the lexical items are similar or different from one another in certain ways (i.e., synonymy, antonymy, and hyponymy). Syntagmatic relations, on the other hand, exist when the lexical items center on a specific experience, activity, or event (e.g., horse, hay, and rider are all related to the field of horsemanship).

Gibbs and Nayak (1989) initially classified idioms, based on how easily they can be decomposed or analyzed, into decomposable and nondecomposable idioms. Decomposable idioms are those whose individual components contribute independently to their overall meaning, while nondecomposable ones are those whose individual components do not make such a contribution. For example, the phrase *pop the question* has two words which are closely related to their individual figurative meanings and is therefore considered as decomposable. On the other hand, in the phrase *kick the bucket*, the individual meanings of the words “kick” and “bucket” do not separately make up the meaning “to die”. Such phrases are often based on some historical occurrence or culturally instantiated linguistic usage that has long since been forgotten, while the phrases themselves have become fixed in the language (Gibbs and Nayak, 1989).

Decomposable idioms are further classified into normally decomposable and abnormally decomposable (Gibbs and Nayak, 1989). In normally decomposable idioms (e.g., *pop the question*), the literal and figurative meanings are semantically similar with straightforward mappings between the components of the idiom and their figurative meanings (e.g., *pop* refers to suddenly asking and *question* refers to a proposal of marriage). However, abnormally decomposable idioms (e.g., *spill the beans*) require more analysis since the metaphorical links between the literal meanings and figurative concepts need to be mapped out in order for the idiom to make sense (e.g., *beans* acts as a metaphorical reference to secrets).

Gibbs and Nayak (1989) tested the core tenet of the IDH; that people perceive differences in the semantic compositionality of idioms. This hypothesis was tested by asking participants to categorise idioms as normally decomposable, abnormally decomposable or non-decomposable. They found that, not only could people distinguish between the relevant categories of compositionality, but that agreement amongst participants was highly consistent. The mean proportion of agreement between participants was 86% for normally decomposable idioms, 79% for abnormally decomposable idioms, and 88% for semantically nondecomposable idioms.

The empirical data from Gibbs and Nayak's studies support the idea that idioms are partially compositional, contrary to traditional claims that view idioms as non-compositional.

2.2.2.1 Some contradictory evidence about the IDH

The IDH has a history of conflicting evidence. On the one hand, there have been some studies that replicated Gibbs and Nayak's work and they found similar results such as Bortfeld (2003) and Hatchard (2008). On the other hand, other studies, such as Titone

and Connine (1994) and Tabossi et al. (2008), failed to find similar results despite using the same procedure as Gibbs and Nayak. These studies are discussed in details below.

Bortfeld (2003) addresses the difference between how people process idioms from their own language and from two other languages. The aim of this study was to highlight whether idioms are analyzable to varying degrees across languages, as well as how processing might differ for the different phrases given this variability. Bortfeld (2003) adopted Gibbs and Nayak's (1989) classification of idioms into three different groups: normally decomposable, abnormally decomposable, and nondecomposable. The subjects, who were native English speakers, were asked to read each visually presented idiom and decide which meaning category it belonged to. The phrases belonged to the meaning categories: revelation, secrecy, insanity, anger, and control. The results of the experiments showed that people could successfully categorise idioms from their own language; English, as well as idioms from two other languages; Latvian and Mandarin. She also found that normally decomposable idioms were most often categorized correctly followed by abnormally decomposable idioms and nondecomposable idioms respectively.

In the same vein, Hatchard (2008) investigated the effects of compositionality and familiarity on idiom comprehension, and followed the same procedure that was used by Bortfeld (2003). She chose idioms which belonged to five semantic categories: anger, death, insanity, power, and secrecy. Participants were asked to complete an online test in which 76 idioms appeared individually on the screen with 5 options representing the five semantic categories. The participants' task was to decide as quickly as possible to which category each idiom belonged. The results showed that the speed of comprehension was significantly affected by three factors: semantic category, compositionality, and familiarity. Semantic category had a significant effect on idiom

processing time and the secrecy category took the longest time among all categories. The results also showed that familiar idioms were processed faster than unfamiliar ones in all five semantic categories and in all three compositionality groups. There was a significant effect of compositionality on response time. Normally decomposable idioms were processed first, followed by abnormally decomposable and nondecomposable respectively.

In contrast, Titone and Connine (1994) and Tabossi et al. (2008) used the same procedures as in Gibbs and Nayak but failed to find significant agreement among participants in the categorization of idioms. Titone and Connine (1994) found that people could agree on the decomposable versus nondecomposable distinction, but not on the normal versus abnormal distinction. They did not provide the percentage of agreement for the three categories of idioms. Nevertheless, they provided the percentage of idioms that were reliably classified as normally decomposable, abnormally decomposable or nondecomposable. Out of 171 idioms, 42% were classified as nondecomposable, 4% were abnormally decomposable, and 5% were normally decomposable. They say that their failure to get significant agreement was due to the fact that grouping idioms into categories based on compositionality utilizes a type of linguistic knowledge that is not easily accessed.

Similarly, Tabossi et al. (2008) failed to find significant agreement between participants in the classification of decomposable (62.21%) and nondecomposable (59.98%) idioms. Agreement was near chance in the classification of normally decomposable (66.15%) and abnormally decomposable idioms (60.00%). Tabossi and colleagues attribute this discrepancy to the fact that Gibbs and Nayak pre-selected their materials on the basis of experimenter intuition rather than testing a more representative sample of idioms from across the language.

2.2.3 Conclusion

This thesis focuses on the IDH model of idiom processing as opposed to other models because, firstly; this model has been widely accepted, second; there has been some controversy about its findings, and third; it is innovative in terms of its departure from the traditional view of idioms as being noncompositional.

Despite the wide acceptance of IDH, evidence in support of this theory is contradictory. In their original paper, Gibbs and Nayak (1989) tested the main claim of their theory that people perceive differences in the semantic compositionality of idioms by asking participants to categorise idioms as normally decomposable, abnormally decomposable or non-decomposable. They found that people could consistently categorise idioms into the three types and that agreement amongst participants was highly reliable. In contrast, Titone and Connine (1994) and Tabossi et al. (2008) used the same procedures as in Gibbs and Nayak but failed to find significant agreement among participants in the categorization of idioms. The authors ascribe different reasons for their failure to replicate Gibbs and Nayak's high level of agreement. Titone and Connine found that people could agree on the decomposable versus nondecomposable distinction, but not on the normal versus abnormal distinction probably because grouping idioms into categories based on compositionality utilizes a type of linguistic knowledge that is not easily accessed. Tabossi et al., who found no agreement on any category, argued that Gibbs and Nayak's idiom selection procedures led to an unrepresentative sample of materials and hence to an unrepresentative level of agreement.

Experiments 1, 2, 3, and 4 in Chapter 3 aim at categorizing the Bahraini idioms into the three compositionality groups. They also explore the cross-linguistic variation in the classification of idioms by asking the native speakers of the language and people who do not speak the language to classify the same set of idioms. The conceptual metaphor

hypothesis will also be addressed in Chapter 4 through investigating the source and target domains of Bahraini idioms as well as the mappings between the two.

2.3 Alternative views of idiom comprehension

Besides the compositional and noncompositional models of idiom comprehension, there exist other views of idiom comprehension. In this section, we review the conceptual metaphor hypothesis which emphasizes the role of conceptual metaphor in idiom comprehension.

2.3.1 The conceptual metaphor hypothesis

A cognitive-linguistic model of idiom motivation is offered by Lakoff (1987). The cognitive linguistic view agrees with the traditional view in that the meanings of idioms are not completely predictable; however, it suggests that a large part of an idiom's meaning is motivated by conceptual metaphors (Gibbs, 1991; Gibbs et al., 1997) (the relation between conceptual metaphor and idioms will be discussed in detail in Chapter 4).

Lakoff's model of idiom motivation was substantiated by many psycholinguistic experiments conducted by Gibbs and his colleagues. They investigated the importance of conceptual metaphors for idiom comprehension (see for example, Nayak and Gibbs, 1990; Gibbs, 1990, 1992, 1993, 1994).

Nayak and Gibbs (1990) hypothesize that idioms map onto different properties of the concepts they express, in such a way that idioms are appropriate to use in some discourse contexts but not others, in spite of the similarities in these phrases' figurative meanings. For example, both *flip his lid* and *do a slow burn* mean 'get angry'. However, they refer to different temporal stages of anger; the former denotes an abrupt onset of anger, while the latter denotes a long duration rather than an abrupt onset.

Nayak and Gibbs found that people's understanding of idioms is constrained by their conceptual knowledge of the domains to which idioms refer. They claim that idioms are not discretely represented in the mental lexicon so that idioms are arbitrarily linked to their figurative meanings. "Instead, idioms whose meanings are generated from the same conceptual metaphor may be linked together in a temporal sequence as part of a semantic field for each type of conceptual referent (anger, fear, joy, etc.)" (Nayak and Gibbs, 1990: 328).

Some idioms are analyzable because their constituents individually contribute to the figurative meaning of the idioms. For example, the idiom *pop the question* is analyzable because *question* refers to 'marriage proposal' and *pop* to 'the act of suddenly uttering it.' Nayak and Gibbs claim that there are strong motivated links between the individual parts of idioms and their conceptual referents (e.g., between *question* and 'marriage proposal'). They explain that the links between the parts of the idiom and its figurative meaning can be motivated by a set of conceptual metaphors that map information from a source domain to a target domain. For instance, the idiom *let off steam* is motivated by the conceptual metaphor ANGER IS HEAT IN A PRESSURIZED CONTAINER (Lakoff, 1987; Lakoff and Kövecses, 1987). This idiom is analyzable because *steam* refers to 'anger' and *let off* to 'the act of releasing it'. This analyzability is facilitated by the conceptual mapping inherent in the conceptual metaphor in which information is transferred from the source domain (pressurized container) to the target domain (anger).

The metaphorical motivation for idioms can also account for the syntactic behaviour of idioms (Gibbs and Ginzaes, 1985; Gibbs and Nayak, 1989). For example, *flip your lid* is considered as analyzable and syntactically productive because speakers know that *lid* has a referent in both the source domain (the lid of a pressurized container) and the

target domain (ANGER IS HEAT IN A PRESSURIZED CONTAINER) (Nayak and Gibbs, 1990).

Other empirical studies have shown that the meaning of idioms is partially motivated and that speakers can identify some relation between the components in an idiom and their overall figurative interpretations (Gibbs and O'Brien, 1990). Furthermore, they found that people's tacit knowledge of the conceptual metaphors underlying idioms strongly constrained their mental images for these phrases. For example, the conceptual metaphors MIND IS A CONTAINER and IDEAS ARE ENTITIES form a link between the idiom *spill the beans* and its figurative meaning 'reveal a secret' and constrain people's understanding of the events within their conventional images for this idiom.

Gibbs (1992) conducted a number of experiments that clearly demonstrated that idioms are not dead metaphors but have more complex meanings that are motivated by conceptual metaphors linking idiom phrases with their figurative interpretations. He found that people have shared intuitions about different knowledge domains and that the meanings of idioms are consistent with the source-to-target domain mappings of the conceptual metaphors that motivate these phrases' figurative meanings.

Gibbs et al. (1997) used an on-line priming measure to examine the role of conceptual metaphor in immediate idiom comprehension. According to their view, metaphorical knowledge is activated during idiom processing and can be, under some circumstances, automatically accessed. They found that people responded faster to targets related to the conceptual metaphor motivating the idiom (e.g., *heat* which represents ANGER IS HEATED FLUID IN A CONTAINER that motivates *blow your stack*) than to targets unrelated to the conceptual metaphor (e.g., *lead*). These results suggest that conceptual metaphors are accessed during people's normal comprehension of idioms.

2.4 Critical effects of idiom comprehension

Research has shown that there are a couple of factors that have been proved to affect idiom comprehension; syntactic flexibility and familiarity. This section reviews how these factors might affect idiom comprehension.

2.4.1 The syntactic flexibility of idioms

Gibbs and Nayak (1989) propose that the syntactic productivity of idioms depends quite specifically on their semantic composition. They tested this hypothesis by asking participants to rate some syntactically manipulated idioms. They claim that normally decomposable idioms should be viewed as more syntactically productive than either nondecomposable or abnormally decomposable idioms. The results showed that subjects gave significantly higher ratings to the normally decomposable idioms than to either the abnormally decomposable or nondecomposable phrases. Abnormally decomposable idioms were found to be relatively limited in their syntactic behaviour. Gibbs and Nayak attribute this to the fact that their individual parts do not refer to components of the idiom's real-world referents. Therefore, the idea that the syntactic productivity depends on the semantic composition of idioms is partially born in Gibbs and Nayak's experiment. This is because abnormally decomposable idioms seem even more frozen than nondecomposable idioms.

Further analysis indicated differences in subjects' rating of the syntactic changes. The rating for the present participle and adverb insertion were significantly higher than the other syntactic operations because subjects viewed these two syntactic changes as being least disruptive to the figurative meanings of the idioms.

Gibbs and Nayak (1989) also tested the hypothesis that normally decomposable idioms are acceptable as pronominalized constructions, such as *I buttoned my lips, but Steve*

didn't button his, in contrast to abnormally decomposable phrases and nondecomposable idioms. Their data indicated that subjects gave higher ratings to normally decomposable idioms than to both abnormally decomposable and nondecomposable idioms. These findings provide further support for the IDH by showing that subjects view normally decomposable idioms as working best in pronominalized constructions. This is because the individual parts of normally decomposable idioms have separate meanings which contribute to their figurative interpretations. However, abnormally decomposable idioms are less acceptable in pronominalized constructions because their individual parts receive their meanings by virtue of some metaphorical relations between the part and its referent. Nondecomposable idioms are also less acceptable in pronominalized constructions since their separate parts do not have independent meanings that contribute to the idiom's figurative interpretations.

Gibbs and Nayak concluded that the syntactic productivity of idioms is not simply a matter of syntax, but must also include considerations of both semantics and pragmatics.

Horn (2003) proposes that the property of thematic composition better explains the syntactic flexibility of idioms, or mobility as he calls it, than the property of semantic composition. An expression has thematic composition if "the thematic structure of the verb in its literal sense and that of the verb in its idiomatic sense are identical." (p: 249) Horn defines thematic structure as "the set of semantic roles that a verb assigns to its NP arguments." (p: 249) In the expression *bury the hatchet*, the verb *bury* in its literal sense assigns the same semantic role to its NP object as does *bury* in its figurative sense. When one literally buries something, one physically removes, eliminates or hides it. When one figuratively buries something, e.g. a disagreement, one removes, eliminates

or ends it in an abstract sense. However, in the expression *raise hell*, *raise* in its literal sense and cause (as in the figurative expression) have different thematic structures.

Horn (2003) hypothesizes that mobile (syntactically flexible) expressions are those that have thematic composition, while non-mobile expressions are those that lack thematic composition. He found that mobility varies among idioms and he came up with two subtypes: transparent expressions, such as *pull strings*, that have unlimited mobility and can occur in passive sentences, raising sentences, relative clauses, and *wh*-questions. The second type, non-transparent expressions, such as *spill the beans*, has limited mobility and occur in passive sentences as well as raising sentences. However, they do not occur in relative clauses or in *wh*-questions.

Horn concluded that thematic composition is a sufficient condition for mobility, but it is limited by independent factors.

Despite the fact that Gibbs and Nayak (1989) tested the syntactic flexibility of idioms long before Horn (2003) did, he did not mention Gibbs and Nayak's work or any of the other empirical studies conducted in psycholinguistics. This negligence discredits Horn's work which could have benefited from the findings of psycholinguistic research. In general, Horn arrived at a similar conclusion to Gibbs and Nayak's. The non-transparent expressions are mostly those abnormally decomposable according to the IDH and that is why they are limited in their mobility.

2.4.2 Familiarity of idioms

Familiarity is defined as the frequency with which a listener or reader encounters a word in its written or spoken form (Gernsbacher, 1984) and the degree to which the meaning of a word is well known or easily understood (Nusbaum, Pisoni, and Davis, 1984). In this thesis, familiarity is divided into lexical and conceptual familiarity. These two types

are conflated under Gernsbacher's definition. (The distinction between lexical and conceptual familiarity will be discussed in section 3.3).

There have been many studies that investigated the role of familiarity in the recognition of individual words (Gernsbacher, 1984; Connine et al., 1990) as well as in the processing of idioms (Schweigert, 1986; Cronk et al., 1993; Giora and Fein, 1999).

Gernsbacher (1984) employed a lexical decision task and found that words with high experiential familiarity were recognized faster than words with low experiential familiarity. In a similar study, Connine et al. (1990) found a reaction time advantage for high-familiarity and high-frequency words in a visual and auditory lexical decision.

Schweigert (1986) proposes that the idiomatic meaning may be harder to retrieve for less familiar idioms than for familiar idioms. The results showed that, in both idiomatic and literal sentences, those containing highly familiar idioms were read faster than those containing less familiar idioms. These findings suggested that the models of idiom comprehension should be modified to account for the effect of familiarity on idiom comprehension.

Cronk et al. (1993) provided empirical justification for controlling literalness and familiarity in experiments involving idioms, and they validated the usefulness of these subjective ratings over the more objective frequency counts. For instance, they found that both subjective familiarity and subjective literalness significantly affected the reading time of idiomatic phrases. In figurative uses of idioms, low-familiarity idioms were read more slowly than high-familiarity idioms. However, in literal uses of idioms, literalness affected the reading time of idioms; high-literalness idioms were read more quickly than low-literalness idioms.

Giora and Fein (1999) confirmed the predictions of the graded salience hypothesis. Comprehension of familiar idioms in the idiomatically biased context (as in He told me the whole story *on one leg*, which means ‘briefly’) highly activated the more salient idiomatic meaning, whereas the less salient literal meaning was hardly activated. However, in literally biased contexts (as in In the zoo, I saw a stork standing *on one leg*), both the idiomatic and the literal meanings were activated. Similarly, the comprehension of less familiar idioms in the idiomatically biased context activated both the literal and the idiomatic meanings. In contrast, in the literally biased contexts, the more salient literal meaning was highly activated, while the less salient idiomatic meaning was marginally evoked.

The way familiarity is operationalized can be problematic at times. Traditionally, lexical familiarity has been operationalized as the frequency with which a word occurs in printed English text (Gernsbacher, 1984). This has caused some inconsistency in the findings of some experiments in which the performance with low-printed-frequency words composed of high-frequency bigrams was worse than performance with low-printed-frequency words composed of low-frequency bigrams. Gernsbacher (1984) attributes this discrepancy to the fact that the two groups of low-printed-frequency words used in previous experiments are actually different in their subjective or experiential familiarity. Therefore, Gernsbacher suggests that rated experiential familiarity be used as either a substitute to or a complement to printed frequency because, firstly, experiential familiarity seems a more sensitive measure of actual frequency of encounters; and secondly, subjective rating of familiarity is more contemporary than printed frequency counts.

2.4.3 Conclusion

The conflicting findings surveyed in section 2.2.3.1 (Some contradictory evidence about the IDH) might have been caused by familiarity. When someone comes across an idiom that he or she finds highly familiar, it is likely that the constituents will be mapped very easily to its figurative paraphrase. Take, for example, an idiom classed as normally decomposable (Gibbs & Nayak, 1989) such as *break the ice* (“to start conversation”). A speaker who is highly familiar with this idiom is likely to judge that both components make an individual contribution to the meaning – to *break* refers to putting an end to something and *ice* is related to the tense silence before conversation begins – and so it seems decomposable. However, another speaker who has only occasionally encountered the idiom and finds it less familiar is likely to have some difficulty in separately mapping the components to the paraphrase meaning – why should *break* be related to “start” or *ice* be related to “conversation”? – and would hence regard the idiom as nondecomposable. Even if a speaker decides that the idiom is decomposable, someone who frequently encounters the mapping between *ice* and “tense silence” could regard it as rather literal because *ice* is closely related to the idea of a tense or unfriendly atmosphere; presumably, this is why most of Gibbs and Nayak's participants judged the idiom as normally decomposable. However, *ice* could also be regarded as referring to the tense atmosphere in an indirect, metaphorical way, particularly if a speaker has little prior experience in mapping *ice* to “tense silence”, which would therefore make the idiom abnormally decomposable. In short, degree of familiarity may be intrinsically linked to the perceived degree of compositionality.

This thesis tries to explain compositionality within the framework of familiarity by allowing idioms to vary in their level of familiarity from highly familiar idioms to unfamiliar. The relation between compositionality and familiarity is explored in

experiments 1, 2, 3, and 4 in Chapter 3. Furthermore, the syntactic flexibility of Bahraini idioms is investigated in experiment 5 in Chapter 3.

3 Chapter three: Testing the idiom decomposition hypothesis

This chapter sets the main empirical issues of this thesis. It reports and discusses the results of the five experiments conducted as part of this thesis to investigate the IDH: decomposability in Bahraini speakers (Experiments 1 and 2), decomposability in English speakers (Experiments 3 and 4), and syntactic flexibility in English speakers (Experiment 5).

3.1 Experiment 1: (Non)Decomposability in Bahraini Speakers

Gibbs and Nayak (1989) found that people could classify idioms into decomposable and nondecomposable categories with high levels of agreement: 82.5% for decomposable idioms¹ and 88% for nondecomposable. For example, they describe *pop the question* as decomposable because *pop* refers to suddenly asking and *question* to a marriage proposal, whereas *kick the bucket* is nondecomposable because neither *kick* nor *bucket* contribute separately to the meaning of dying. Titone and Connine (1994) also found that the classification of decomposable and nondecomposable idioms was reliable. They did not provide the percentage of agreement for decomposable and nondecomposable idioms. Nevertheless, they provided the percentage of idioms that were reliably classified as decomposable or nondecomposable. Out of 171 idioms, 42% were classified as nondecomposable and 22% as decomposable. In contrast, Tabossi et al. (2008) failed to find significant agreement between participants in the classification of both decomposable (62.21%) and nondecomposable (59.98%) idioms. While Tabossi and colleagues attribute this discrepancy to the fact that Gibbs and Nayak pre-selected

¹ Gibbs and Nayak (1989) did not provide the percentage of agreement for decomposable idioms as a single category. However, since normally and abnormally decomposable idioms appeared in approximately equal numbers in their experiment, we approximated the mean agreement for decomposable idioms by averaging the reported agreement for these two subcategories.

their materials on the basis of experimenter intuition rather than testing a more representative sample of idioms from across the language, it is also possible that what sets decomposable apart from nondecomposable idioms is how familiar they are to the reader/listener. A familiar idiom like *pop the question* is more likely to be seen as decomposable than an unfamiliar idiom like *take the crow road*- a Scottish idiom meaning “to die”.

Familiarity is a continuum, ranging from the completely unfamiliar to the highly familiar with several levels of gradation in between. Some of the above studies, that tested the classification of idioms into the categories proposed by the IDH, attempted to restrict their item sets to familiar idioms but did so with varying degrees of control. For example, Gibbs and Nayak (1989: Experiment 2) used a binary choice (i.e., familiar versus unfamiliar), which loses information by treating all items between “sort-of familiar” and “highly familiar” as an undifferentiated whole. On the other hand, Tabossi et al. (2008: Experiment 1) collected Likert ratings from 1 (“not at all familiar”) to 7 (“very familiar”), which allowed them to verify that their idioms were generally rated at the upper end of the scale (Mean familiarity = 5.86). In other words, Gibbs and Nayak's idioms span a greater range of familiarity than Tabossi et al.'s idioms, and this greater variance could contribute to why Gibbs and Nayak found an effect while Tabossi et al. did not. If compositionality is contingent on familiarity, then idioms are more likely to cluster into decomposable / nondecomposable categories if they represent a range from relatively familiar to unfamiliar.

In this experiment, we collected familiarity ratings on a 1-7 scale for a wide variety of idioms in Bahraini Arabic. We then used the same procedures as in Gibbs and Nayak (1989) and Tabossi et al. (2008) to examine whether people perceive differences in the semantic compositionality of idioms. Participants received a list of Bahraini idioms

together with their literal paraphrases (e.g., *X cut the thread*, paraphrased as “X died”) and were asked to indicate on a 7-point scale to what extent the individual components of each idiom contributed to the idiom’s figurative meaning. Since our idiom set was allowed to vary in familiarity, we expected participants to agree on categories of decomposable and nondecomposable idioms. We also expected compositionality ratings to increase as familiarity increased.

Method

Participants: A total of 25 undergraduates at the University of Bahrain, Bahrain volunteered to participate in the study. All were native speakers of Arabic (Bahraini dialect). They were unaware of the purposes of the study.

Materials: A total of 151 Bahraini idioms were collected by the author. This was done through interviewing Bahraini people and reading folk literature. All idioms had a literal meaning in addition to their figurative meaning. Each idiom was paired with its paraphrase which was constructed by the author and verified by an independent Arabic speaker. All idioms were presented in Arabic, for example: *Khobiz yadey* (X is my hand’s bread).

Familiarity of the idioms was measured by asking eight native speakers of Bahraini Arabic to rate the idioms on a 7-point scale of familiarity (where 1 represents “not at all familiar” and 7 represents “highly familiar”). The idioms were overall judged as familiar ($M=5.51$, $SD=1.32$); mean ratings ranged from one idiom at 1.0 (*X’s head is not even beaten by a governor* which means that X is stubborn) to several idioms at 7.0 (e.g., *X burst my liver* which means X made me angry).

Procedure: The 25 participants who took part in the study were presented with a booklet containing written instructions in addition to the list of idiom-paraphrase pairs.

Each idiom-paraphrase was presented on a separate page, and each participant saw the idioms in a different random order. The instructions were the same as in Gibbs and Nayak (1989: Experiment 1) and Tabbossi et al. (2008: Experiment 1) but they were translated into Arabic:

In the booklet you will find a list of Bahraini idiomatic expressions, each paired with its paraphrase. Your task is to read each idiomatic-paraphrase expression pair and to judge for each idiomatic expression to what extent its components singularly contribute to the figurative meaning of the expression as expressed in the paraphrase. To express the judgement, you will have to use a 7-point scale like that shown below:

Not at all similar							Very similar
1	2	3	4	5	6	7	

Please give the scores keeping in mind that 1 indicates that the two expressions in a pair are not at all similar in meaning, and 7 indicates that they are very similar in meaning. Intermediate scores are for intermediate degrees of similarity. Please do not forget to judge all the pairs and assign to each of them a single score.

Examples were provided to clarify the task for the participants, marked on the rating scale at 7, 5 and 1, respectively.

Examples:

Idiom: talaba yadaha (to ask for her hand)

Paraphrase: to propose marriage

The hand here stands for the woman and the whole expression means to propose marriage. Therefore, we can say that there is a lot of similarity between the expression and its paraphrase.

Idiom: ya'kol alnass (to eat people)

Paraphrase: to gossip about people

This expression is a metaphor for gossip. When we look at the individual components of the expression; eat and people, they do not mean to gossip in a direct way. However, by analysing the metaphorical relations between the words, we can arrive at the figurative meaning. Therefore, we can say that there is some similarity between the expression and its paraphrase.

Idiom: hind alahamis (hind: a woman's given name, alahamis: the name of an Arabic tribe)

Paraphrase: Brevity

This expression has historical roots and the meaning of the expression cannot be achieved through its individual components. Hence, the idiom and its paraphrase are not similar in meaning.

The mean score for each idiom was computed. Idioms were then divided into two groups; decomposable and nondecomposable. Idioms whose mean ratings were higher than 4.00 were considered decomposable, while idioms whose mean ratings were lower than 4.00 were considered nondecomposable (no idiom had a score equal to 4.00). The complete list of Bahraini idioms used in this experiment can be found in Appendix 1.

Results and Discussion

Mean ratings and agreement per category can be seen in Table 3.1. The mean compositionality rating for all of the idioms was 5.44. A total of 134 idioms had a mean rating above 4.00 and, therefore, were categorized as decomposable, whereas 17 idioms were categorized as nondecomposable.

Table 3.1 Familiarity and compositionality ratings, with percentage agreement between participants, for categories of nondecomposable versus decomposable idioms

	Familiarity rating	Compositionality rating	Agreement
	<i>M (SD)</i>	<i>M (SD)</i>	%
Nondecomposable	3.63 (1.61)	3.42 (0.373)	52.75
Decomposable	5.75 (1.07)	5.69 (0.701)	78.93**

The percentage of agreement amongst participants in categorising each group of idioms was analysed with binomial tests. Decomposable idioms were judged with a level of agreement significantly above chance (78.93%, $p = 0.002$). In contrast, there was little agreement in how people judged the remaining idioms to be nondecomposable (52.75%,

$p = 0.391$). Finally, Spearman's correlation showed the predicted positive relationship between familiarity and compositionality ratings: $r(149) = .552$, $p < .0001$. This relationship held for idioms within the decomposable category, $r(132) = .449$, $p < .0001$, but not for the relatively small number of idioms in the nondecomposable category, $r(15) = .266$, $p = .151$. However, it should be noted that the relatively small number of idioms in the nondecomposable category ($N = 17$) meant that its analysis lacked the power of the decomposable category (i.e., agreement on the nondecomposable category was not as significant as the decomposable category due to the small number of idioms in the nondecomposable category).

The current findings support our claim that idiom compositionality is to some extent contingent on familiarity. Furthermore, our data suggest that the inconsistent results in Gibbs and Nayak (1989) and Tabbossi et al (2008) are due at least in part to differences in idiom familiarity. Like Gibbs and Nayak, our idioms varied in familiarity and participants could judge a subset as decomposable with significant agreement. However, like Tabossi et al., our participants could not agree on which items were nondecomposable. In other words, the more familiar an idiom, the more likely it was to be judged as decomposable, but this relationship was less reliable for idioms at the nondecomposable end of the scale (which could be due to the small number of nondecomposable idioms found in this study). The assumption of the IDH that people can intuitively perceive the distinction between decomposable and nondecomposable idioms is therefore only partly borne out by our results. In the following experiment, we turn our attention to whether people can agree on the distinction between normal and abnormal decomposability.

3.2 Experiment 2: (Ab)Normal Decomposability in Bahraini Speakers

As with the decomposable versus nondecomposable distinction, Gibbs and Nayak (1989) found that people could subclassify idioms into normally and abnormally decomposable categories with a high level of agreement: 88% for normally decomposable and 79% for abnormally decomposable. For example, *pop the question* is described as normally decomposable by Gibbs and Nayak because *pop* is directly related to “suddenly asking”, whereas *spill the beans* is abnormally decomposable because *beans* and “secrets” are related metaphorically. Again, Tabossi et al. (2008) failed to replicate this finding, with agreement near chance for both categories: 66.15% for normally decomposable and 60.00% for abnormally decomposable idioms. Tabossi and colleagues argue that the normal versus abnormal distinction is not always clear because it appears to rely on a subjective notion of metaphoricity; for example, when comparing *miss the boat* (normally decomposable) and *get down to brass tacks* (abnormally decomposable), they question “in what sense is the relation between *boat* and 'opportunity' less metaphorical than the relation between *brass tacks* and 'the problem'?” (p. 314).

As before, the greater range of familiarity spanned by Gibbs and Nayak's idioms could contribute to why they found significant agreement in categorisation while Tabossi et al. did not. For example, an unfamiliar idiom like *take the crow road* is more likely to be viewed as having an indirect, metaphorical relationship between its words and their figurative meaning (i.e., between *crow road* and “death”) than a familiar idiom like *pop the question*. If the classification of a mapping as literal or metaphorical is contingent on familiarity, then idioms are more likely to cluster into normal / abnormal categories if they represent a range from relatively familiar to unfamiliar.

The aim of this experiment is to classify the decomposable Bahraini idioms into normally decomposable and abnormally decomposable using the same procedures as in Gibbs and Nayak (1989) and Tabbossi et al. (2008). Idioms, which were determined as decomposable in Experiment 1, were presented to a new group of participants to classify them into normally or abnormally decomposable. We expected participants to agree on categories of normally and abnormally decomposable idioms, and for the rate of normally decomposable idioms to increase as familiarity increases.

Method

Participants: 27 new participants from the same population as in Experiment 1.

Material: The 134 decomposable idioms from Experiment 1.

Procedure: The participants received a booklet containing all the decomposable idioms with their paraphrases. The booklet was designed as in Experiment 1.

Instructions (in Arabic) were explained on a separate sheet as follows:

In the booklet you will find a list of Bahraini idiomatic expressions, each paired with its paraphrase. Your task is to read each idiomatic-paraphrase expression pair and to judge for each idiomatic expression to what extent its components singularly contribute to the figurative meaning of the expression as expressed in the paraphrase. Some idioms can be understood easily because they have words whose meanings directly relate to their figurative interpretations. For example *ask for her hand* means “propose marriage” and *eats people* means “gossip about them.” However, these two idioms are different in terms of how each one is understood, therefore, they can be classified into two types:

Normally decomposable idioms: in which the relation between the words and their figurative meanings is rather literal. For example, in *ask for her hand*, *ask* has a literal relation with “propose” and *hand* refers to the woman. Expressions of this sort are normally decomposable.

Abnormally decomposable idioms: in which the words have a more metaphorical relation to their figurative referents. Thus, in *eats people*, *eat* and *people* refer to “gossip” in a metaphorical way. These idioms are abnormally decomposable.

Your task is to decide for each of the following idioms whether it is normally or abnormally decomposable.

The percentage of participants categorizing each idiom as normally or abnormally decomposable was calculated. The complete list of Bahraini idioms used in this experiment can be found in Appendix 1.

Results and Discussion

Of the 134 decomposable idioms, 82 were categorized as normally decomposable, and 49 were categorized as abnormally decomposable. The remaining 3 idioms were considered as neither normally nor abnormally decomposable because they were categorized as such by an equal number of participants: these were excluded from further analysis.

Binomial tests showed that people judged normally decomposable idioms with a level of agreement above chance (67.40%, $p = 0.035$). However, the percentage of agreement among judges for abnormally decomposable idioms was marginal (63.89%, $p = 0.074$).

Table 3.2 Familiarity rating and percentage of agreement between participants for abnormally versus normally decomposable idioms, where ‘*’ indicates marginal agreement and ‘’ indicates significant agreement**

	Familiarity rating	Agreement
	<i>M (SD)</i>	%
Abnormally decomposable	5.46 (1.03)	63.89*
Normally decomposable	5.93 (1.06)	67.40**

A point biserial correlation between familiarity ratings (continuous variable) and normal versus abnormal categorisation (binary nominal variable) showed a positive relationship, $r(129) = .216$, $p = .007$: people were more likely to judge highly familiar idioms as normally decomposable and less familiar idioms as abnormally decomposable.

The present findings support our claim that classification of a mapping as literal or metaphorical is contingent on familiarity. People are more likely to judge a familiar idiom as having a direct relationship between the words and their figurative meanings, and hence are more likely to categorise it as normally decomposable. Furthermore, like Gibbs and Nayak (1989) and unlike Tabossi et al., (2008), we found that people agreed on the categorisation of normally decomposable idioms and marginally agreed on abnormally decomposable idioms. These results could be interpreted as support for the assumption of the IDH that people can intuitively perceive the distinction between normally and abnormally decomposable idioms. However, given the persistent effect of familiarity, we would argue differently. Rather, we suggest that when people are highly familiar with a particular idiomatic expression, the relationship between the words and the underlying figurative meaning becomes more direct. In other words, an idiom such as *miss the boat* may seem to have a metaphorical relationship between *boat* and “opportunity” when one first encounters the expression, but increasing exposure to the idiom will make the relationship appear less metaphorical and more direct. Eventually, the mapping appears direct enough for one to class the idiom as normally decomposable (its “correct” category according to Gibbs and Nayak, 1989).

3.3 Experiment 3: (Non)Decomposability in English Speakers

The experiments in sections 3.1 and 3.2 showed that compositionality is to some extent contingent on familiarity. In the next two experiments, we presented the less familiar Bahraini idioms to English speakers to classify. When Bahraini speakers rated familiarity in the above experiments, there are two possibilities of what these ratings actually reflect: (1) lexical familiarity with the idioms, or (2) conceptual familiarity (i.e., familiarity with the source domains of the idioms, and/or the mappings). If lexical familiarity with the idiom is what affected the Bahraini speakers ratings of the idioms,

then presenting translated Bahraini idioms to English speakers should control that factor. English and Arabic belong to different language families, therefore, we assume that most idioms will be unfamiliar to English speakers at the lexical level. However, if familiarity extends to the conceptual level, then English speakers might find some Bahraini idioms, even if they do not have English equivalents, familiar due to the familiarity of the concept behind them. In other words, familiarity can be associated with the source domain of the idiom and/or the mappings between the source and target domains. Let us take for example the idiom *X's eyes are greedy*, which means 'X is greedy.' This idiom does not exist in English, however, every human has a body, know their body parts, and understand how they function in the world. Hence, we assume that the familiarity of the source domain, *human body*, might facilitate the decomposability of this idiom.

Testing translated idioms is not unprecedented; for example Bortfeld (2003) presented translated Latvian and Mandarin idioms to English speakers to classify into the three compositionality groups. She found that people were successful at classifying idioms translated from languages they did not speak.

The aim of this experiment is first, to test whether English speakers can classify translated Bahraini idioms into decomposable and nondecomposable, and second, to see if English speakers' ratings are contingent on familiarity. Using English speakers in this experiment enables us to remove the lexical familiarity effect. Therefore, any effect of familiarity must be conceptual familiarity.

Method

Participants: A total of 27 psychology undergraduates at the University of Manchester, UK participated in the study and they received course credits for taking part in the

experiment. All were native speakers of English. They were unaware of the purposes of the study.

Materials: A total of 130 Bahraini idioms which were determined to be unfamiliar to English speakers.

Familiarity of the idioms was measured by asking eight native speakers of English to rate the idioms on a 7-point scale of familiarity (where 1 represents “not at all familiar” and 7 represents “highly familiar”). The idioms were overall judged as unfamiliar ($M=1.86$, $SD= 1.37$). Some idioms were very familiar to the English speakers such as *a stone’s throw* which means ‘very near’, and *it’s between you and me* which means ‘it’s a secret.’ Twenty one idioms were judged to be familiar by 50% of the raters, therefore, they were excluded for the purposes of this experiment. These idioms have close lexical equivalents in English (i.e., there is some effect of lexical familiarity), so by excluding them, we could guarantee that only lexically unfamiliar idioms were left.

Procedure: Participants received test booklets containing all the unfamiliar idioms, and which were designed as in Experiment 1. The instructions were also the same as in Experiment 1. Two examples from English were provided:

Examples

Idiom: Pop the question

Paraphrase: Propose marriage

Not at all similar						Very similar
1	2	3	4	5	6	7

Idiom: Kick the bucket

Paraphrase: Die

Not at all similar						Very similar
<u>1</u>	2	3	4	5	6	7

The mean score for each idiom was computed. Idioms were then divided into two groups; decomposable and nondecomposable. Idioms whose mean ratings were higher than 4.00 were considered decomposable, while idioms whose mean ratings were lower than 4.00 were considered nondecomposable. The complete list of Bahraini idioms used in this experiment can be found in Appendix 2.

Results and Discussion

Mean ratings and agreement per category can be seen in Table 3.3. The mean compositionality rating for all of the idioms was 3.73. A total of 52 idioms had a mean rating above 4.00 and, therefore, were categorized as decomposable, whereas 77 idioms were categorized as nondecomposable. One idiom (*there is no goat for me in the herd*) had a score equal to 4.00 and was therefore excluded from further analysis.

Table 3.3 Familiarity and compositionality ratings, with percentage agreement between participants, for categories of nondecomposable versus decomposable idioms

	Familiarity rating	Compositionality rating	Agreement
	<i>M (SD)</i>	<i>M (SD)</i>	%
Nondecomposable	1.18 (0.333)	2.89 (0.74)	65.55*
Decomposable	1.7 (0.731)	4.96 (0.627)	65.9**

Binomial tests showed that the percentage of agreement among judges (that idioms and paraphrases have similar meanings) for decomposable idioms was significant while for nondecomposable idioms it was marginal; decomposable (65.9%, $p = 0.0492$);

nondecomposable (65.55%, $p = 0.053$). Finally, Spearman's correlation showed a positive relationship between familiarity and compositionality ratings: $r(127) = .501, p < .001$. This relationship held for idioms within both categories; decomposable category, $r(50) = .443, p < .001$, and the nondecomposable category, $r(75) = .336, p = .001$.

The current findings support the claim of the IDH that people can agree on the classification of decomposable and nondecomposable idioms. Agreement here does not mean that speakers agree with each other, but rather that they agree on the similarity of the idioms to their paraphrases. Like Gibbs and Nayak (1989) and unlike Tabossi et al. (2008), English speakers significantly agreed on the decomposable category and marginally agreed on the nondecomposable category. These findings are partially consistent with our findings with the Bahraini speakers; both English and Bahraini speakers significantly agreed on the decomposable category, nevertheless, the Bahraini speakers did not agree on the nondecomposable category.

The present findings support our claim that once we control the lexical familiarity of the idioms, we can get clearer distinctions between decomposable and nondecomposable idioms. In other words, the idioms that were presented to participants in this experiment were the less familiar ones; i.e., they were lexically unfamiliar because the phrases did not exist in English. Therefore, one would assume that the participants could see the relation between the figurative phrase and the literal meaning better. However, given the positive correlation between familiarity and compositionality ratings, we would argue differently. Despite the short familiarity span of idioms (i.e., all idioms were at the unfamiliar end of the scale with ratings from 3.625 to 1), English speakers rated the more familiar idioms as decomposable and the less familiar ones as nondecomposable. What, other than lexical familiarity, sets decomposable idioms apart from

nondecomposable ones? The answer to this question is conceptual familiarity. The familiarity of the source domain and/or the mappings between the source and target domains renders the idiom decomposable, whereas unfamiliar source domains and/or mappings result in nondecomposable idioms. This is best illustrated through an example like *X burnt my heart* which means ‘X made me angry.’ This idiom is unfamiliar to English speakers at the lexical level. However, using fire to talk about anger is very common in English. Hence, this idiom was categorized as decomposable by English speakers. In the following experiment, we try to investigate whether the English speakers can agree on the classification of normally and abnormally decomposable idioms.

3.4 Experiment 4: (Ab)Normal Decomposability in English Speakers

We saw in Experiment 2 that the Bahraini Arabic speakers could reliably classify idioms into normally and abnormally decomposable, but that classification was contingent on familiarity. What sets normally decomposable apart from abnormally decomposable idioms according to Gibbs and Nayak (1989) is the kind of relation between the figurative meaning and its literal counterpart. We argued in section 3.3 that when the Bahraini speakers were highly familiar with the idiom, they saw the relation between the figurative and literal meanings as more direct than with unfamiliar idioms. Similarly, we hypothesize that when the English speakers are conceptually familiar with an idiom, they would see the relation between the figurative and literal meanings as more direct than with conceptually unfamiliar idioms. In other words, an idiom like *X’s hand is extended* which means ‘X is generous’ seems conceptually familiar to English speakers. In this example, the extended hand is metaphorically related to generosity. Nevertheless, due to the salience of the source domain ‘human body’, people would see the relation between the two as rather direct.

The aim of this experiment is first, to test whether English speakers can reliably classify translated Bahraini idioms into normally and abnormally decomposable, and second, to see if English speakers' ratings are contingent on familiarity. In this experiment, we presented the previously determined decomposable idioms (Experiment 3) to a new group of English speakers to classify into normally and abnormally decomposable. We expected the English speakers to agree on categories of normally and abnormally decomposable idioms, and for the rating of normally decomposable idioms to increase as familiarity increases.

Method

Participants: A total of 26 students at the University of Manchester took part in this experiment and they received £3 in return.

Materials: The 52 decomposable idioms from Experiments 3.

Procedure: The participants received a booklet containing all the decomposable idioms with their paraphrases. The booklet was designed as in the previous experiments.

Instructions were explained on a separate sheet as follows:

Many idioms are decomposable, i.e., they have words whose meanings directly relate to their figurative interpretations. For example, *pop the question* has two words which are closely related to their individual figurative meanings. Thus, the word *pop* is closely related to the idea of 'suddenly asking' or suddenly proposing' while the word *question* refers to a particular kind of question, namely a 'marriage proposal.' Idiom phrases like this are called '**normally decomposable.**' On the other hand, there are idioms that are decomposable but whose individual words have a more metaphorical relation to their figurative meanings. Thus, the phrase *spill the beans* means something like 'reveal a secret.' Although there is a fairly close relationship between *spill* and 'reveal', the word *beans* refers to 'secrets' in a less direct metaphorical way. Idioms such as *spill the beans* are called '**abnormally decomposable.**'

Your task is to decide for each of the following idioms whether it is normally decomposable or abnormally decomposable.

The percentage of participants categorizing each idiom as normally or abnormally decomposable was calculated. The complete list of Bahraini idioms used in this experiment can be found in Appendix 2.

Results and Discussion

Of the 52 decomposable idioms, there were 27 normally decomposable, 22 abnormally decomposable, and 3 neither normally nor abnormally decomposable because the number of participants was evenly distributed throughout the two types. Therefore, these three idioms were excluded from further analysis.

Binomial tests showed that both normally and abnormally decomposable idioms were categorized with a level of agreement significantly above chance (normally decomposable, 72.11%, $p = .001$; abnormally decomposable, 70.86%, $p = .002$) (Table 3.4).

A point biserial correlation between familiarity ratings (continuous variable) and normal versus abnormal categorisation (binary nominal variable) showed a positive relationship, $r(47) = .302$, $p = .035$: people were more likely to judge highly familiar idioms as normally decomposable and less familiar idioms as abnormally decomposable.

Table 3.4 Familiarity rating and percentage of agreement between participants for abnormally versus normally decomposable idioms

	Familiarity rating	Agreement
	<i>M (SD)</i>	%
Abnormally decomposable	1.48 (0.772)	70.86**
Normally decomposable	1.92 (0.657)	72.11**

The current findings are consistent with Gibbs and Nayak who found significant agreement on both normally and abnormally decomposable idioms. They are also consistent with our findings with the Bahraini speakers in section 3.2. It should be noted here that the effect of familiarity is still persistent in the classification of normally and abnormally decomposable idioms and again this is similar to our findings with the Bahraini speakers except for one difference. The familiarity that affected the Bahraini speakers' rating was at least partially lexical familiarity, whereas with the English speakers it is conceptual familiarity because the English speakers had little or no exposure to these idioms before. The familiarity of the source domain and/or the mappings between the source and target domains seems to reduce the metaphorical links between the figurative and literal meanings. As we said in the introduction to this experiment, an idiom like *X's hand is extended* which means 'X is generous' seems to have lost the metaphorical links between the extended hand and generosity because of the high familiarity of the source domain of the idiom – *human body*.

3.5 Meta-analysis: Comparison of Bahraini and English speakers' data

In this section, we try to explore whether the Bahraini and English speakers agree on the classification of idioms or not. We assume that both groups will agree on the classification of a limited number of idioms. This is mainly because of the persistent effect of familiarity in the ratings of both groups. What affected Bahraini speakers' ratings was partially lexical familiarity, while what affected English speakers' ratings was primarily conceptual familiarity because they were presented with lexically unfamiliar idioms. Hence, we assume that the only type of familiarity both groups of speakers would share is conceptual familiarity; i.e., both groups would agree on the classification of idioms that have familiar source domains and/or mappings. On the

other hand, both groups would differ on lexical familiarity, which English speakers do not have.

An interrater reliability analysis using the Kappa statistic was performed to determine consistency among raters in the classification of normally decomposable, abnormally decomposable, and nondecomposable idioms (Table 3.5). The two groups agreed on the classification of 43 idioms only out of 130 idioms; 24 normally decomposable, 8 abnormally decomposable, and 11 nondecomposable. The interrater reliability was found to be Weighted Kappa = 0.186. The strength of agreement is considered to be ‘poor’.

Table 3.5 The classification of idioms into normally decomposable, abnormally decomposable, and nondecomposable by the Bahraini and English speakers

		English speakers		
		Normally Decomposable	Abnormally Decomposable	Nondecomposable
Bahraini speakers	Normally Decomposable	24	10	32
	Abnormally Decomposable	1	8	34
	Nondecomposable	0	3	11

Why could not the Bahraini and English speakers agree on the classification of idioms? The reason for this is familiarity. We found in earlier experiments that both Bahraini and English speakers’ ratings significantly correlated with familiarity (Sections 3.1 to 3.4). The more familiar an idiom is, the more likely it is to be viewed as decomposable. The difference between Bahraini and English speakers here is that Bahraini speakers could categorize decomposability using both lexical and conceptual familiarity, whereas English speakers had just conceptual familiarity to rely on. For example, an idiom like

X's blood is light, which means 'X is witty', was lexically and conceptually familiar to the Bahraini speakers (familiarity $M=7$), consequently, they categorized it as normally decomposable. However, the same idiom was considered to be conceptually unfamiliar to the English speakers (familiarity $M=1$), because it has an unusual mapping between blood and humour. Thus, they categorized it as nondecomposable. Let us take another example like *X doesn't know their elbow from their thumb's tip*, which means X is ignorant. This idiom is again lexically familiar to Bahraini speakers (familiarity $M=5.88$). Lexical familiarity made the mapping seem direct so Bahraini speakers categorized it as normally decomposable. English speakers, however, found this idiom quite conceptually familiar (familiarity $M=2.75$) because there is a similar idiom in English, but not an equivalent, which is *X doesn't know their arse from their elbow*. Since English speakers may have done a similar mapping in English, they may have thought that not distinguishing between two distinct body parts is metaphorically related to ignorance, and thus categorized the idiom as abnormally decomposable.

The results of the current analysis provide further support to the idea that familiarity actually determines compositionality. Using the same set of idioms, the two groups of raters, Bahraini and English speakers, could not agree on which category idioms fall into.

3.6 Experiment 5: Syntactic Flexibility in English Speakers

Earlier experiments (sections 3.1 to 3.4) have shown that familiarity affects explicit categorization of decomposability, so this experiment will test the difference between decomposability categories more implicitly (i.e., by a syntactic flexibility task).

Gibbs and Nayak (1989) found that the syntactic versatility of idioms was directly influenced by people's assumptions of how the individual parts of idioms contribute to

their overall figurative meaning. In other words, the impact any syntactic change has on an idiom's figurative meaning depends on the type of idiom. For example, passivisation should be more disruptive to the figurative meaning of nondecomposable idioms than the other types. The reason for this is that the object cannot be brought into focus at the beginning of a sentence unless it has separate meaning (Gibbs and Nayak, 1989). Therefore, a sentence like *the bucket was kicked by John* is not acceptable. On the contrary, it is perfectly acceptable to say *the law was laid down by the boss when he heard about the big mistake made*, which is normally decomposable. The results of their experiment showed a significant effect of idiom type: normally decomposable idioms ($M = 5.08$) were rated as more syntactically flexible than abnormally decomposable ($M = 4.62$) and nondecomposable idioms ($M = 4.60$). However, abnormally decomposable idioms produced anomalous results in their experiment. Namely, the ratings of the use of present participle, as in *her father's laying down the law prevented her from going to the dance*, and adverb insertion, as in *the boss will quickly lay down the law if anyone shows up late*, were significantly lower in abnormally decomposable idioms than in normally decomposable and nondecomposable idioms. They also found a significant effect of syntactic manipulation: present participle and adverb insertion were the least disruptive of the expression's figurative meaning. Furthermore, the interaction between idiom type and syntactic manipulation was significant: disruptive operations, for example, passive and action nominalization, were more likely to be accepted with decomposable idioms than nondecomposable ones.

Tabossi et al. (2008), on the other hand, found a significant effect of syntactic manipulation: adverb insertion was the least disruptive of all operations. This finding is consistent with Gibbs and Nayak. However, idiom type was only significant in the analysis by subjects: they found that abnormally decomposable idioms received lower

ratings than normally decomposable and nondecomposable idioms. Nevertheless, there was no evidence that normally decomposable idioms were seen as more flexible than nondecomposable idioms. Tabossi et al. failed to replicate Gibbs and Nayak's findings. They attributed their failure to find any compositionality effect on syntactic flexibility to the low compositionality ratings obtained in their study. They concluded that contrary to the claims of the IDH, people's intuitions on the semantic analyzability of idioms do not determine their judgements of the acceptability of syntactic variation.

Just like the rating for compositionality, we predict that familiarity will affect how people judge the syntactic flexibility of idioms. A highly familiar idiom might be still accepted even when it occurs in different syntactic forms. However, a less familiar idiom might not be easily accepted once it undergoes syntactic manipulation. For instance, if a familiar idiom like *X added wood to the fire* (normally decomposable)¹, which means X made the situation worse, undergoes some syntactic manipulation, for example passivisation, it would still retain its figurative meaning. "Wood was added to the fire by X" is still comprehensible as X made the situation worse. On the other hand, a less familiar idiom like *X plays on both ropes* (normally decomposable), which means X operates deceitfully, undergoes the same syntactic manipulation, it might be harder to do the necessary mappings between the literal meaning and the figurative one. "Both ropes were played on by X" is difficult to understand as "X operates deceitfully".

In this experiment, we test translated Bahraini idioms because when testing native speakers of a language, lexical and conceptual familiarity conflate and hence, it is difficult to separate the two. However, testing translated idioms allows conceptual familiarity to be tested separately.

¹ Since this experiment concerns English speakers, all references to idiom type and familiarity also come from ratings by English speakers.

The aim of this experiment is, therefore, to examine whether compositionality influences people's intuitions on the syntactic flexibility of idioms. If the IDH is right, we expect normally decomposable idioms to be viewed as more syntactically flexible than abnormally decomposable and nondecomposable idioms. If our view about the effect of familiarity is right, then we expect flexibility ratings to increase as familiarity increases.

Method

Participants: A total of 26 volunteers, who were native speakers of English, took part in this experiment.

Materials: Unlike Gibbs and Nayak, who pre-selected their idioms with the same syntactic structure verb +object, our idiom set varied in its syntactic structure. The Bahraini idioms can be classified into six syntactic classes (Abdou, 2009). Examples of these classes are given in Table 3.6 below. The variety of the syntactic structures put some restrictions on selecting idioms for this experiment. Nonetheless, we tried to choose verbal idioms as much as possible to conform to Gibbs and Nayak's procedures.

Table 3.6 Examples of the syntactic classes of Bahraini idioms

Syntactic classes	Examples
Verb-subject idioms	Intafa hiss <i>shakhs</i> Extinguished sound SB He died
Verbal idioms	Ygayer jaw Changes air He changes the environment
Nominal idioms	Weld ayaweed Son respectable people He is a good generous person
Prepositional idioms	Wara dhahr <i>shakhs</i> Behind back SB In SB's absence
Adjectival idioms	Yadeh baidha His-hand white He is generous
Adverbial idioms	Zalga b-taiha A-slip with-a-fall To do two things at the same time (simultaneously)

Ten normally decomposable, 10 abnormally decomposable, and 10 nondecomposable idioms were used as stimuli as determined by the classification done in Experiments 3 and 4. Each of the 30 idioms was placed in an appropriate sentence and was syntactically manipulated according to the following operations: (1) adjective insertion, (2) adverb insertion, (3) passivisation, and (4) pronominalisation. The other syntactic operations that Gibbs and Nayak (1989) used (present participle and action nominalization) could not be used in Arabic. Therefore, we used pronominalisation as an alternative. Each manipulated idiomatic sentence was paired with a sentence that paraphrased its idiomatic meaning. The appropriateness of the idiom-paraphrase pairs was verified by 3 native speakers of English. Table 3.7 presents an example of one idiom in each of its four syntactic forms and the corresponding paraphrases. Overall, there were 120 (30 idioms x 4 syntactic changes) idiom-paraphrase sentence pairs. The 120 sentence pairs were randomly divided into 3 blocks: each block containing 40

sentence pairs with an equal number (10) of each syntactic operation. However, some idioms appeared in two syntactic operations at most in a single block. The complete list of idiom-paraphrase sentence pairs used in this experiment can be found in Appendix 3.

Table 3.7 An example of the different syntactic operations and their corresponding paraphrases in Experiment 5

Syntactic operation	Idiomatic expression: <i>to change air</i> , “to change the environment”
Adjective insertion	Linda changed the stressful air by going out after finishing her exams. Linda changed the stressful environment by going out after finishing her exams.
Adverb insertion	Sara often changes air when she feels bored. Sara often changes the environment when she feels bored.
Passivisation	The air was changed for the whole family when they went to the beach. The environment was changed for the whole family when they went to the beach.
Pronominalisation	Linda changes air by going to Barcelona and Mark changes it, too. Linda changes the environment by going to Barcelona and Mark changes it, too.

Procedure: The experiment was designed as an online test. Participants were presented with written instructions followed by the experimental material. The instructions were the same as in Gibbs and Nayak (1989: Experiment 2) and Tabbossi et al. (2008: Experiment 2):

In the test you will find a list of Bahraini idiomatic sentences, each paired with its paraphrase. Your task is to read each pair and judge to what extent the meaning of the first sentence is similar to the meaning of the second.

To express the judgement, you will have to use a 7-point scale like that shown below:

No similarity					Great similarity	
1	2	3	4	5	6	7

Please note that you should not base your judgement on what the idiomatic sentence might mean if it were presented in a different form, but rather to make judgements in accordance with the form with which the sentence is actually presented.

Participants were assigned to one of the blocks based on their date of birth. So, if they were born in January, February, March, or April, they were asked to complete Block (1); if they were born in May, June, July, or August, they were asked to complete Block (2); and if they were born in September, October, November, or December, they were asked to complete Block (3).

Mean rating for each idiomatic sentence was calculated. Each analysis was performed twice: in the (F1) analysis, both idiom type and syntactic operation were manipulated within-participants; while in the (F2) analysis, idiom type was between-items and syntactic operation was within-items with familiarity as a co-variate.

Results

Mean ratings for the three types of idioms in each of the four syntactic manipulations are presented in Table 3.8 below.

Table 3.8 Ratings for Experiments 5

Syntactic manipulation	Idiom type			Mean ratings
	Normal	Abnormal	Nondecomposable	
Adjective insertion	5.09	4.26	3.33	4.23
Adverb insertion	4.83	4.17	3.14	4.05
Passivisation	5.05	3.84	3.17	4.02
Pronominalisation	4.98	3.96	3.34	4.09
Mean ratings	4.99	4.06	3.24	

A two-factor analysis of variance on subjects' ratings suggested that Idiom Types differed in syntactic flexibility, $F(2,50) = 220.87, p < .001$, , $F(2,26) = 9.41, p = .001$.

Planned pairwise comparisons showed that idiom type was statistically significant in all syntactic manipulations ($F1$, all $ps < .001$) in the predicted order of syntactic flexibility: normally decomposable, abnormally decomposable, and nondecomposable respectively. However, in the absence of the interaction between idiom type and syntactic manipulation being significant by-items, this difference was not as statistically robust as it could have been. Paired comparison in the $F2$ analysis showed that some of the differences between idiom types disappear; for example, normally and abnormally decomposable idioms are the same for adjective ($p = .14$) and adverb insertion ($p = .15$); and abnormally and nondecomposable idioms are the same for adjective insertion ($p = .21$), passivisation ($p = .22$) and pronominalisation ($p = .3$).

The main effect of syntactic operation did not reliably emerge in by-items analysis $F1(3,75) = 3.07$, $p < .05$, $F2(3,78) = 0.396$, $p = 0.757$, nor did the interaction of both variables, $F1(6,150) = 2.11$, $p = .055$, $F2(6,78) = 0.546$, $p = 0.772$. Familiarity could only be included in the by-items analysis, so the by-participants analysis does not take familiarity into account. The effect of the familiarity covariate was significant $F2(1,26) = 12.5$, $p = .002$.

Adjective insertion

There was a significant effect of idiom type, $F1(2,50) = 93.02$, $p < .001$; $F2(2,26) = 3.63$, $p = .041$, as well as an effect of familiarity in the by-items analysis, $F2(1,26) = 7.97$, $p = .009$. Planned comparisons showed that only the difference between normally decomposable ($M = 5.09$) and nondecomposable ($M = 3.34$) idioms was robust ($p1 < .001$, $p2 = .012$). Abnormally decomposable idioms ($M = 4.25$) were not reliably different from either normally decomposable idioms ($p1 < .001$; $p2 = .14$) or nondecomposable idioms ($p1 < .001$; $p2 = .21$) in the by-items analysis.

Adverb insertion

There was a significant effect of idiom type, $F1(2,50) = 89.91, p < .001$; $F2(2,26) = 5.58, p = .010$; as well as an effect of familiarity in the by-items analysis, $F2(1,26) = 11.51, p = .002$. Planned comparisons showed that the difference between normally decomposable ($M = 4.83$) and nondecomposable ($M = 3.14$) idioms was significant ($p1 < .001, p2 = .003$), while the difference between abnormally ($M = 4.17$) decomposable and nondecomposable idioms was marginal ($p1 < .001; p2 = .055$). Abnormally decomposable idioms were not reliably different from normally decomposable idioms ($p1 < .001; p2 = .15$) in the by-items analysis.

Passivisation

There was a significant effect of idiom type, $F1(2,50) = 72.63, p < .001$; $F2(2,26) = 8.90, p = .001$; and a marginal effect of familiarity in the by-items analysis, $F2(1,26) = 3.97, p = .057$. Planned comparisons showed that normally decomposable ($M = 5.05$) idioms were reliably different from abnormally decomposable ($M = 3.84$) ($p1 < .001, p2 = .006$) and nondecomposable ($M = 3.17$) idioms ($p1 < .001, p2 < .001$). Abnormally decomposable idioms were not significantly different from nondecomposable idioms ($p1 < .001, p2 = .22$) in the by-items analysis.

Pronominalisation

There was a significant effect of idiom type, $F1(2,50) = 68.31, p < .001$; $F2(2,26) = 7.02, p = .004$; as well as a significant effect of familiarity in the by-items analysis, $F2(1,26) = 8.94, p = .006$. Planned comparisons showed that normally decomposable ($M = 4.98$) idioms were reliably different from abnormally decomposable ($M = 3.95$) ($p1 < .001, p2 = .011$) and nondecomposable ($M = 3.34$) idioms ($p1 < .001, p2 = .001$). Abnormally decomposable idioms were not significantly different from nondecomposable idioms ($p1 < .001, p2 = .3$) in the by-items analysis.

Discussion

The results of the current experiment showed that idiom types differed in syntactic flexibility. This finding is consistent with the claim of the IDH that compositionality actually influences people's intuitions on the syntactic flexibility of idioms. The three types of idioms significantly differed in the predicted order of syntactic flexibility: normally decomposable, abnormally decomposable, and nondecomposable respectively. This finding contradicts what Gibbs and Nayak (1989) and Tabossi et al. (2008) found. They both found that the ratings for abnormally decomposable idioms were lower than normally decomposable and nondecomposable idioms. Gibbs and Nayak attributed the anomalous results they found in the abnormally decomposable category to the fact that the individual components of abnormally decomposable idioms are metaphorically related to their referents. Therefore, they claim that "it does not make as much sense to either focus on the individual parts, as is done when passive is applied, or modify some component which refers only metaphorically to the figurative referents, as is done when adjective insertion is applied" (p: 114). It does seem to make sense in our idioms to focus on individual parts and modify components because of conceptual familiarity which affects both decomposability and syntactic flexibility. One needs to break down the idiom into its source domain, target domain, and mappings. The degree of familiarity of the source domain and/or the mappings will determine the decomposability of the idiom as well as its syntactic flexibility. Furthermore, Tabossi et al. rejected the idea of any link between decomposability and syntactic flexibility. They did not find any evidence that normally decomposable idioms were seen as more syntactically flexible than nondecomposable idioms because the difference between the two types was actually in favour of the latter (normally decomposable, $M = 4.27$; nondecomposable, $M = 4.34$). We do not agree with Tabossi et al.'s claim because our

data has actually proved that decomposability determines syntactic flexibility but there is also the additional effect of familiarity.

Gibbs and Nayak and Tabossi et al. found that different types of syntactic manipulation varied in their acceptability to idiom type. However, we found no differences (or at least, any differences were weak and not reliable in the by-items analysis). Both Gibbs and Nayak and Tabossi et al. found adverb insertion to be the least disruptive of all manipulations. However, we found no evidence of any systematic differences among all four manipulations. We, therefore, question the validity of any expected differences among the different syntactic manipulations. In other words, the effect of a given syntactic manipulation varies according to how and where this manipulation is applied. For example, Gibbs and Nayak (1989) concluded that adverb insertion is less disruptive at the beginning of the sentence than the middle because it does not disturb the lexical frozenness of the idioms. Similarly, Riehemann (2001) claims that adjective insertion can be seen to modify the meaning of the idiom internally or externally. For example, the adjective insertion in *to bury the legal hatchet* can affect the meaning in two ways: internally, and in this case the idiom means ‘legally reconcile the disagreement’, or externally, in which the idiom means ‘in the legal domain, reconcile the disagreement’ (p.56). In many cases it is difficult to say whether it is internal or external modification. Consequently, this may have affected our syntactic flexibility judgement task. Some participants might have seen the modification as external and rated the sentence at the higher end of the scale, while other participants might have seen it as internal and therefore rated the sentence at the lower end of the scale. Let us take an example from our data:

Idiomatic sentence: The reporter's wish was deeply broken at the sight of starving children.

Paraphrase: The reporter was deeply distressed at the sight of starving children.

This sentence was rated $M = 3.5$ on the syntactic flexibility scale. Half of the participants rated the sentence at the higher end of the scale, apparently because they thought that adverb insertion modified the meaning of the sentence externally. The other half rated the sentence at the lower end of the scale, apparently because they thought that adverb insertion modified the meaning internally.

Another reason why we did not find an effect of the syntactic manipulation is the fact that we presented translated Bahraini idioms to the English speakers. These idioms were lexically unfamiliar to them so altering the idiom syntactically did not change the meaning, at least to them. Figures 3.1 to 3.3 below compare the results of this experiment to Gibbs and Nayak's and Tabossi et al.'s.

Figure 3.1 Mean flexibility ratings in the current experiment

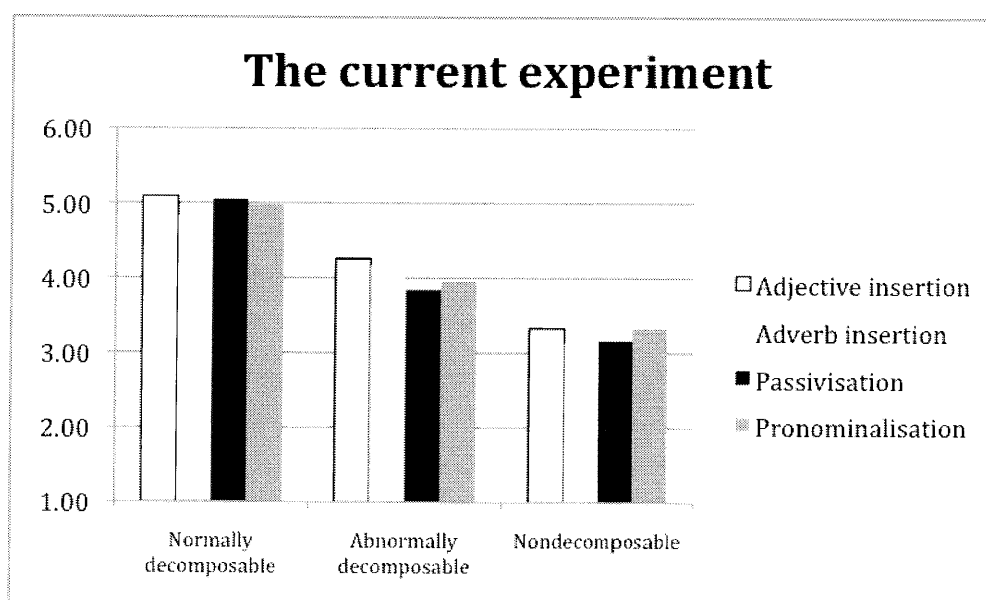


Figure 3.2 Mean flexibility ratings in Gibbs and Nayak (1989), Experiment 2

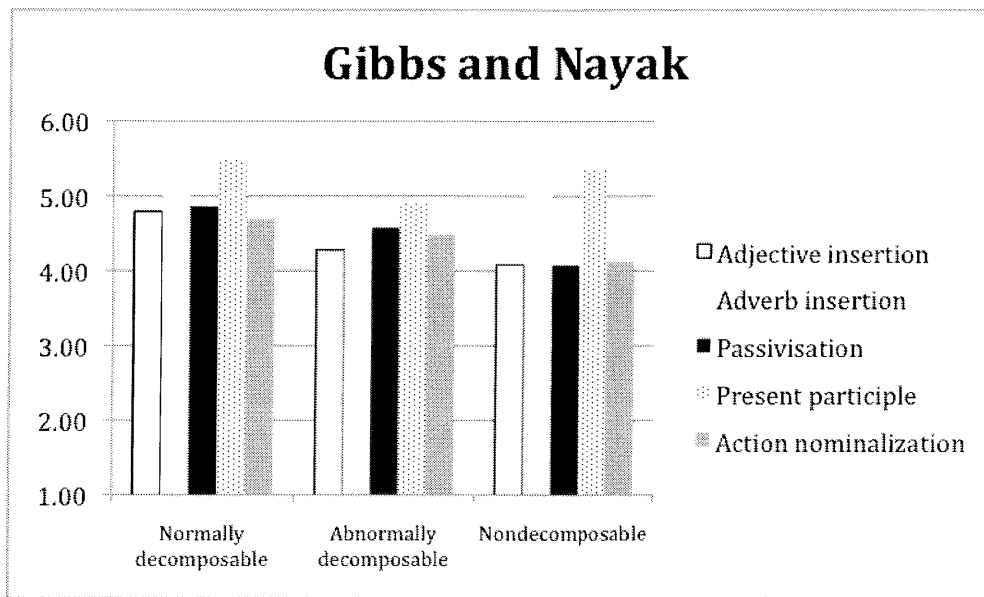
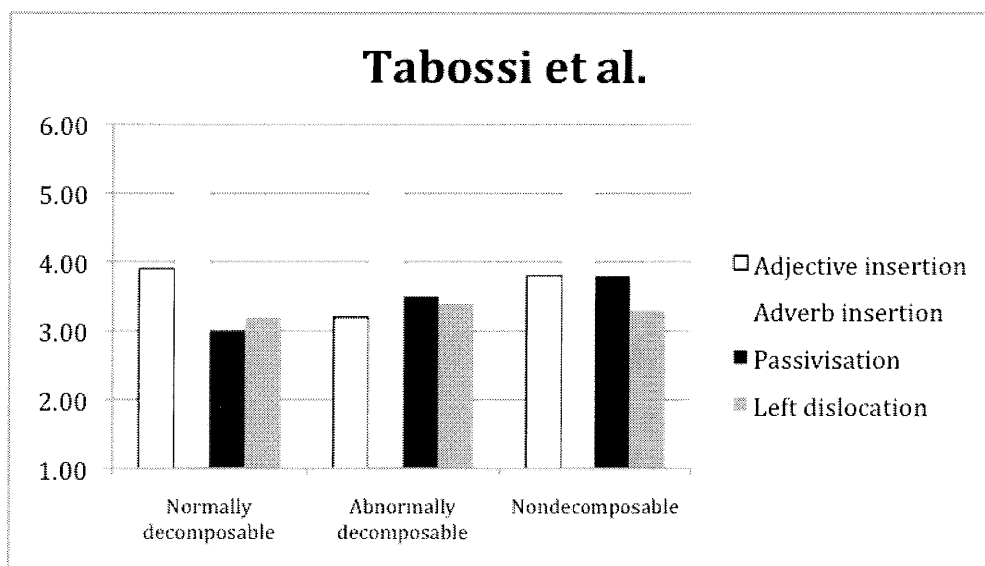


Figure 3.3 Mean flexibility ratings in Tabossi et al. (2008), Experiment 2, as estimated from their own graph



Alternatively, we found familiarity to be a significant covariate in all the by-items analysis. That means that people's intuitions on the syntactic flexibility of idioms were affected by familiarity even when the categorisation of idioms (into normally decomposable, abnormally decomposable, and nondecomposable) had been taken into account. This confirms our hypothesis: people viewed more familiar idioms as more

syntactically flexible than less familiar ones. Going back to the examples we gave in the introduction to this experiment; *X added wood to the fire* and *X plays on both ropes*, the results of the current experiment showed that the former was viewed as more syntactically flexible than the latter (Table 3.9 below). Although both idioms belong to the same compositionality group: normally decomposable, the syntactic flexibility ratings differed significantly ($M= 5.86$; $M= 3.57$ respectively). The reason for this discrepancy is the degree of familiarity of these idioms. *X added wood to the fire* is relatively more familiar than *X plays on both ropes*. Syntactic manipulation of a familiar idiom does not seem to hinder doing the necessary mappings between the literal and figurative meanings or between the source and target domains. The current findings provide further support to our findings in Sections 3.3 and 3.4: the familiarity that affected the English speakers ratings is conceptual familiarity rather than lexical familiarity.

Table 3.9 Examples of a familiar and less familiar normally decomposable idioms with their mean ratings

Idioms	Adjective insertion	Adverb insertion	Passivisation	Pronominalisation	Mean flexibility	Mean familiarity
<i>X added wood to the fire</i>	5.46	5.92	5.96	6.08	5.86	2.375
<i>X plays on both ropes</i>	2.38	3.92	3.88	4.08	3.57	1.375

3.7 Conclusion

It has been revealed in the analysis that familiarity plays a crucial role in: (1) how the Bahraini speakers classify Bahraini idioms, (2) how the English speakers classify Bahraini idioms, and (3) how the English speakers judge the syntactic flexibility of the three types of idioms.

The Bahraini speakers classified the more familiar idioms as decomposable and the less familiar ones as nondecomposable. The ease of making the mappings between the

source and target domains resulted in the majority of idioms being judged as decomposable by the Bahraini speakers who were lexically familiar with the idioms.

Unlike the Bahraini speakers, the English speakers were presented with the less familiar idioms. Nevertheless, they made their judgements on the semantic compositionality of idioms based on how conceptually familiar the idioms were.

In the syntactic flexibility experiment, we saw that there was a significant effect of idiom type. However, neither the main effect of syntactic operation nor the interaction between idiom type and syntactic operation emerged. Rather, familiarity was found to be a significant covariate. This shows that syntactic flexibility judgements were likely affected by familiarity.

The fact that English speakers found some Bahraini idioms familiar is not limited to those idioms that actually have counterparts in English such as *a stone's throw* or *hold your tongue*. Some idioms do not have counterparts in English and English speakers still found them familiar. Examples of those include *X is my right arm* and *to open a new page*. What makes these idioms familiar to English speakers? Everyone has a body and most adults in developed societies have experience with books. This, for instance, makes the speakers familiar with the source domain of human body which produces *X is my right arm*. Also, the familiarity of the mapping between 'opening a new page' and 'reconciliation' makes the idiom *to open a new page* familiar. This finding questions the adequacy of the traditional view of familiarity as the frequency with which a word occurs in printed text (Gernsbacher, 1984). It seems here that familiarity depends not just on the frequency of words but also on the meaningfulness of these words (or the familiarity of the concept expressed). This supports the way Titone and Connine (1994) measured familiarity; they used a scale of frequency as well as a scale of meaningfulness to capture both definitions of idioms (Section 2.4.2).

This raises some further questions which will be explored in Chapter 4 such as, what are the most common source and target domains of Bahraini idioms? And are some source domains more familiar to the English speakers than others? The familiarity of the source and target domains and the mappings between the two will be discussed in details in Chapter 4.

4 Chapter four: Conceptual metaphor and idioms

This chapter is divided into five main sections. The first section addresses conceptual metaphors. The second section briefly discusses the relation between cognitive linguistics and psycholinguistics. The third section explains the notion of image schemas and metaphorical mapping. The fourth section addresses the issue of universality and variation of conceptual metaphor. The fifth presents the results of the analysis with regard to the source and target domains of Bahraini idioms as well as the familiarity of the mappings. The sixth section discusses the results of the analysis. Finally, the last section provides some concluding remarks on this chapter.

4.1 Conceptual metaphors

Conceptual metaphors are metaphorical concepts that are cognitively constructed by mapping a concrete source domain onto a more abstract target domain (Lakoff and Johnson, 1980:4).

Conceptual metaphors bring into correspondence two domains of knowledge; the source domain and the target domain (Kövecses, 2002). The source domain is “the conceptual domain from which we draw metaphorical expressions to understand another conceptual domain.” The target domain is “the domain that we try to understand through the use of the source domain” (Kövecses, 2002:4). Kövecses observed that conceptual metaphors usually employ a more abstract concept as target and a more concrete or physical concept as their source. For example, argument, love and idea are more abstract concepts than war, journey and food. Take for example ARGUMENT IS WAR conceptual metaphor. There is no physical battle here; instead there is a verbal battle. However, the structure of the argument is similar to that of war; we attack the

opponent's positions and we defend our own; we lose and gain ground, etc (Lakoff and Johnson, 1980).

Dirven (1994) proposes that since the human experience is almost unlimited, the types of conceptual domains that can serve as source and target domains are also theoretically unlimited. He then rejects this hypothesis by giving an example from Dutch and Afrikaans (a derivative language of Dutch spoken in South Africa). There is a common proverb in Dutch, "The fox loses its hair, but not its whims". Since the fox does not exist in South Africa, all the Dutch expressions containing "fox" have been replaced by the "jackal" in Afrikaans. Therefore, in Afrikaans, they would say "The jackal loses its hair, but not its whims". Dirven concluded that the conceptual domains that can be used in metaphorical expressions are restricted by one's ecological and cultural experiences.

Kövecses (2002) determined the most common source and target domains through looking at various metaphor dictionaries and surveying the literature. The common source domains include: the human body, health and illness, animals, plants, buildings and construction, machines and tools, games and sports, money and economic transactions, cooking and food, heat and cold, light and darkness, forces, and movement and direction. The common target domains are: emotion, desire, morality, thought, society, politics, economy, human relationships, communication, time, life and death, religion, and events and actions.

Conceptual metaphor can provide semantic motivation for the occurrence of particular words in idioms and this can be considered as a cognitive mechanism that links domains of knowledge to idiomatic meanings (Kövecses, 2002; Langlotz, 2006). The types of mechanisms that seem relevant to many idioms are metaphor, metonymy, and conventional knowledge. For example, in the expression *spit fire*, the domain of fire is used to understand the domain of anger. In other words, anger is comprehended via the

ANGER IS FIRE conceptual metaphor. It is important to note that the general meaning of an idiom is determined by the target domain of the conceptual metaphor that is applicable to the idioms at hand. The more precise meaning of an idiom depends on the particular conceptual mapping that applies to the idiom. Kövecses (2002) explains:

the general meaning of the idiom *spit fire*, which has to do with anger, depends on the existence of the conceptual metaphor ANGER IS FIRE, and its more precise meaning, which is ‘to be very angry,’ depends on the conceptual mapping ‘intensity of fire is intensity of anger’ between the source domain (fire) and the target domain (anger) (p. 206).

4.2 The relation between cognitive linguistics and psycholinguistics

Prior to cognitive linguistics, philosophers used to consider metaphor as a special linguistic rhetorical device. However, subsequent research has shown that metaphor is a special mental mapping that affects people’s thinking, reasoning and imagination in everyday life (Johnson, 1987; Lakoff and Johnson, 1980; Lakoff, 1987). Psycholinguistics and cognitive psychology, on the other hand, have empirically validated many ideas about conceptual metaphor from cognitive linguistics (see for example Nayak and Gibbs, 1990; Gibbs, 1992; Gibbs and O’Brien, 1990). Therefore, we can say that both cognitive linguistics and psycholinguistics complement one another; one provided the theoretical basis and the other tested it empirically.

4.3 Image schemas and metaphorical meaning

Many abstract concepts are partly structured via the metaphorical mapping of information from a familiar source domain onto a less familiar target domain (Gibbs et al., 1997). Metaphorical mappings are defined as a set of correspondences between the source and target domains so that conceptual elements of B conform to elements of A (Kövecses, 2002). This can be further illustrated through LOVE IS A JOURNEY

metaphor in which people metaphorically conceptualize of love by mapping their knowledge of physical journeys onto their knowledge of love (Gibbs et al., 1997). This metaphorical conceptualization motivates metaphorical linguistic expressions found in everyday speech like, *we aren't going anywhere, the relationship is foundering, and it's been a bumpy road*. In these examples, elements of the source domain are mapped onto elements of the target domain as displayed below (Kövecses, 2002:6).

<i>Source: JOURNEY</i>		<i>Target: LOVE</i>
The travellers	→	The lovers
The vehicle	→	The love relationship itself
The journey	→	Events in the relationship
The distance covered	→	The progress made
The obstacles encountered	→	The difficulties experienced
Decisions about which way to go	→	Choices about what to do
The destination of the journey	→	The goal(s) of the relationship

Cognitive and psycholinguistic studies have tried to examine the role of embodiment in people's understanding of conventional and idiomatic expressions. Embodiment is defined as "understanding the role of an agent's own body in its everyday, situated cognition" (Gibbs, 2005: 1). It explains how people's subjective, felt experiences of their bodies in action provide part of the fundamental grounding for language and thought (Gibbs, 2005). In order to understand idiomatic expressions, first, people rely on cognitive linguistic analyses to find some patterns of embodied metaphor. After that, they investigate how people understand the embodied nature of the source domains regardless of their use in linguistic expressions. Finally, they predict what gets mapped onto the different target domains in conceptual metaphors based on the data gathered from the previous analyses (see for example Lakoff and Johnson, 1999; Gibbs et al., 2004).

Let us take the conceptual metaphor ANGER IS HEATED FLUID IN A CONTAINER. This metaphor motivates many idiomatic phrases such as *hit the ceiling*, *flip your lid*, and *blow your stack* (Lakoff and Johnson, 1981). In these examples, we understand an abstract domain (*anger*) in terms of a different and more concrete domain (*heated fluid in a container*). In the examples above, elements of the domain of *anger* (e.g., the person who gets angry, what happens to them, and the consequences of them being angry) correspond to elements of the domain of *a heated fluid in the container* (e.g., the cause, intentionality, manner, and consequences of the fluid being heated) (Gibbs, 2003). According to cognitive linguistics, understanding ANGER IS HEATED FLUID IN A CONTAINER conceptual metaphor is achieved through the embodied experience of containment. People experience bodily containment in many situations: their bodies can be in or out of containers (e.g., beds, houses, and bathtubs); they can also experience their bodies as containers filled with liquids (e.g., stomach fluids, blood, and sweat). When people are under stress, they feel that these fluids are getting heated. These bodily experiences develop an experiential gestalt, or an image schema, for CONTAINMENT (Johnson, 1987). Image schemas fall between abstract propositional structures and ordinary visual images. They consist of dynamic spatial patterns that underlie our bodily movements through space, our manipulation of objects, and our perceptual interactions (Johnson, 1987).

4.4 Universality and variation of conceptual metaphor

The embodied nature of the PRESSURIZED CONTAINER metaphor for anger, as discussed in the previous section, seems to credit the near universality of this metaphor (Kövecses, 2002). People from around the world go through the embodied experience of containment in everyday life. Thus, anger is conceptualized as internal pressure inside a container in a variety of unrelated languages such as, English, Hungarian,

Japanese, Chinese, Zulu, Polish, Wolof, and Tahitian (see Kövecses, 2002). Therefore, the universality of the PRESSURIZED CONTAINER metaphor for anger can be found at the generic level. Kövecses explains that conceptual metaphors are placed at a generic level because of their high generality. They are composed of very general source and target domains. Generic-level metaphors are realized by specific-level ones. Hence, the generic-level metaphor EMOTIONS ARE FORCES is realized by the specific-level metaphor ANGER IS HOT FLUID IN A CONTAINER (Kövecses, 2002).

Even though the PRESSURIZED CONTAINER metaphor is similar across cultures at the generic level, we might notice some differences across cultures at the specific level. Kövecses attributes the causes of cross-cultural variation to (1) broader cultural context, and (2) natural and physical environment. An example of how the broader cultural context can affect variation of the PRESSURIZED CONTAINER metaphor is provided by Japan. In Japan, anger is associated with truth, real intentions, real self, and one's social face. "Thus, when a Japanese person keeps his anger under control, he is hiding his private, truthful, innermost self and displaying a social face that is called for in the situation by accepted standards of behavior" (Kövecses, 2002:187). Natural and physical environment is a second cause of variation. Speakers living in a certain habitat will be attuned to things and phenomena that are characteristics of that particular habitat. Eventually, they will use these things for the metaphorical creation and comprehension of their conceptual universe. For example, both Dutch and its derivative language Afrikaans, which is spoken in some parts of South Africa, share some metaphors related to nature (Dirven, 1994). This includes images of water, sand, stars, wind, clouds, light and shadow, lightening, and earthquake, as in *his star has not been burnt up* and *the way the wind is blowing on the campus* (Dirven, 1994: 70). All these are typical natural features of northern European countries (or Low Countries).

However, Afrikaans has some images, that are absent in Dutch because they are conspicuously absent from the Dutch landscape, like images of mountains and heights, as in *to conquer the mountain* (Dirven, 1994: 73).

4.5 Source and target domains of Bahraini idioms

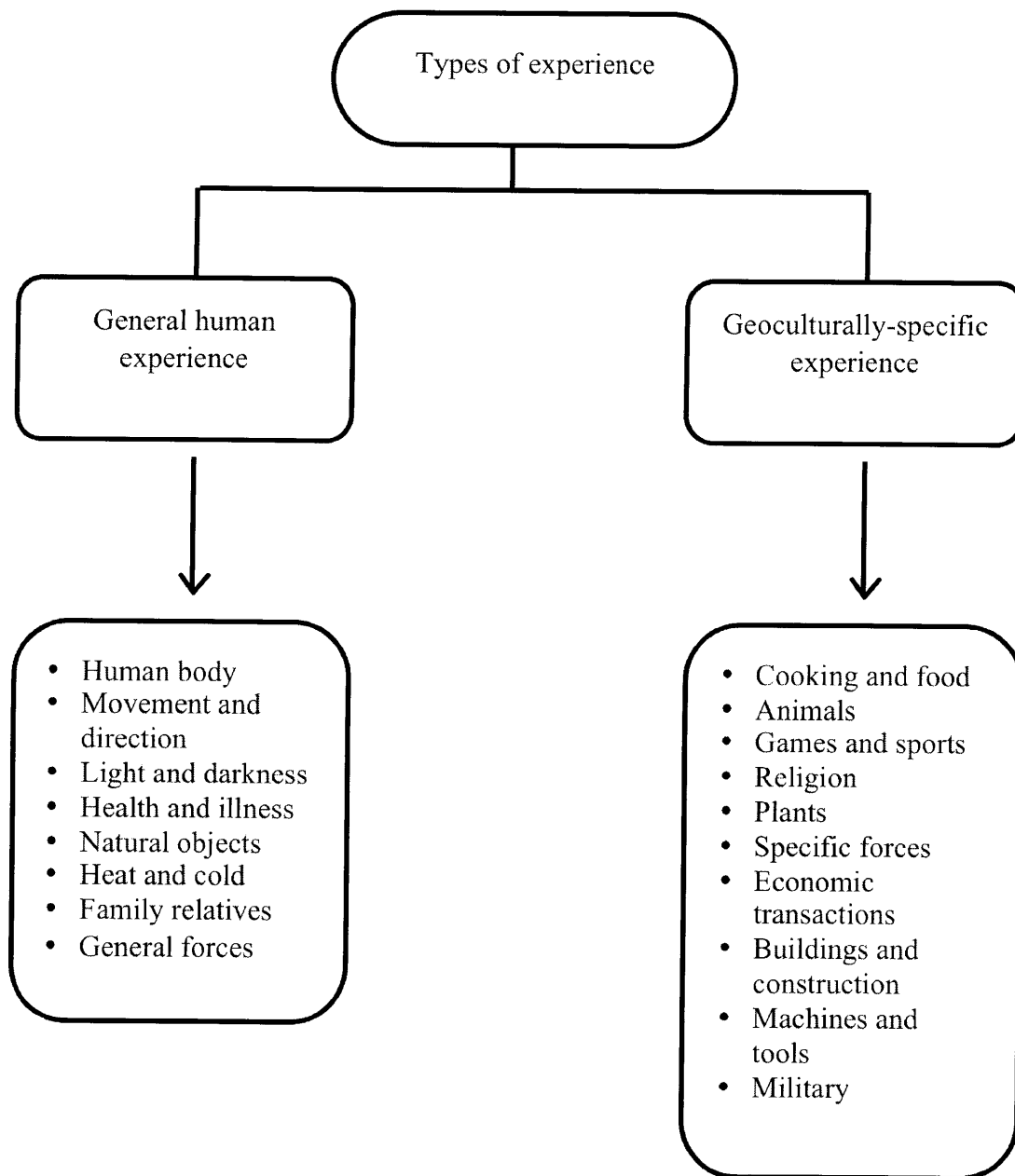
The findings of earlier experiments (Sections 3.1 to 3.5) lend credence to the hypothesis that conceptual familiarity plays an important role in idiom comprehension. Our findings from the English speakers' experiments (sections 3.3 and 3.4) suggest that it might be the familiarity of certain source domains that makes certain Bahraini idioms familiar to the English speakers. If familiarity ratings of idioms are based on conceptual familiarity with the source domain, then English speakers should rate Bahraini idioms as more familiar when they are grounded in general human experience than when they are grounded in geo-culturally specific experience. Take for example an idiom like *X's hand is extended* which means X is generous. This idiom is grounded in general human experience because it is derived from the *human body* (source domain). It is very likely that this idiom will be rated as more familiar by the English speakers than an idiom like *X is calling for prayer in ruins*, which means that no one is listening to X, which is grounded in geo-culturally specific experience. This idiom is derived from the Islamic *religion* in which Muslims are called to prayer five times a day. Therefore, we assume that the familiarity of English speakers with the Bahraini idioms will depend on the conceptual familiarity with the source domain.

It was discussed earlier (in section 4.1) that Kövecses (2002) provided a list of the most common source and target domains in English; nevertheless, he did not try to order them according to their frequency in the language. The most common source domains he gave are: the *human body, health and illness, animals, plants, buildings and*

construction, machines and tools, games and sports, money and economic transactions, cooking and food, heat and cold, light and darkness, forces, and movement and direction. The most common target domains are: *emotion, desire, morality, thought, society, politics, economy, human relationships, communication, time, life and death, religion, and events and actions.*

The source domains Kövecses suggested are quite diverse. There are some domains which are quite universal whereas others are specific to a certain culture due to cultural variation. Therefore, we thought it would be better if we categorize them into some higher-level categories to see how idioms are grounded in human experience. Source domains can be classified according to the type of experience they involve into source domains that are grounded: (1) in general human experience, and (2) in geo-culturally specific experience. People from around the world are likely to have similar experience in source domains which are grounded in general human experience, such as, *human body*. People everywhere in the world have the same bodies and therefore share the same experience of how their bodies function in the world. On the other hand, people from different parts of the world are likely to have different experiences in those domains which are grounded in geo-culturally specific experiences, such as, *cooking and food*, and *animals*. Agriculture varies from one part of the world to the other. Hence, people's experiences with food and animals also vary. It can be recalled here that the geo-culturally specific experiences consists of what Kövecses (2002) calls the causes of cross-cultural variation (broader cultural context, and natural and physical environment). The graph below (figure 4.1) displays how Kövecses' (2002) source domains, in addition to some source domains proposed by the author to accommodate some idioms that did not fit into Kövecses' domains, can be classified into domains grounded in general human experience and geo-culturally specific experience.

Figure 4.1 The classification of source domains according to the type of experience



Some source domains were quite wide, for example *forces*. Therefore, we decided to split it into two categories: *general forces* such as fire, wind, gravity, and storm are part of the general human experience; and *specific forces* such as the sea and rivers which

depend on where people live in the world, are considered as part of the geo-culturally specific experience.

The aim of the next study is: first, to highlight which source and target domains are most common in Bahraini idioms; and second, to investigate whether English speakers' familiarity ratings for Bahraini idioms (which were collected in Experiment 3) emerge from familiarity with the source domain. That is whether English speakers rated Bahraini idioms as more familiar when they were grounded in general human experience than when they were grounded in geo-culturally specific experience. It should be noted here that we are only looking at source domains and not at target domain. That is because the source domain is the domain from which we draw metaphorical expressions, while the target domain is what needs to be inferred.

Method

Materials: The 151 Bahraini idioms which were used in the previous experiments.

Procedure: using the list of the common source and target domains proposed by Kövecses (2002), the Bahraini idioms were categorized according to their source and target domains by the author and verified by two judges. Additional source domains were suggested by the author, such as *family relatives*, where Kövecses' source domains did not fit. The percentage of idioms belonging to each domain has been calculated. After that, the source domains of Bahraini idioms were classified according to the type of experience they denote into general human experience and geo-culturally specific experience by the author and verified by an independent judge with disagreement resolved by discussion.

Results and discussion

4.5.1 Source domains

The source domains of Bahraini idioms with their percentages are illustrated in Table 4.1.

Table 4.1 Source domains of Bahraini idioms

Source domains	No. of idioms	%
Human body	70	46.4%
Health & illness	5	3.3%
Animals	8	5.3%
Machines & tools	-	0%
Buildings & construction	3	2%
Plants	4	2.6%
Games & sport	1	0.7%
Cooking & food	5	3.3%
Economic transactions	1	0.7%
Forces	3	2%
Light & darkness	3	2%
Heat & cold	2	1.3%
Movement & direction	37	24.5%

The most common source domains are *human body* (70 idioms= 46.4% of the total number of idioms) and *movement and direction* (37 idioms= 24.5% of the total number of idioms). Examples of these categories include:

- *X has a hard head*, which means *X is stubborn* – source domain: *human body*
- *X cut the thread*, which means *X died* – source domain: *movement and direction*.

Machines and tools was not present in the current data as a source domain. There were limited occurrences of other domains such as, *games and sports*, and *economic transactions* (1 idiom for each).

Nine idioms did not fit into Kövecses' suggested categories so additional categories were suggested by the author to accommodate these idioms. These additional categories are displayed in Table 4.2 below.

Table 4.2 Additional source domains as suggested by the author

Source domains	No. of idioms	%
Family relatives	6	4%
Natural objects	1	0.7%
Religion	1	0.7%
Military	1	0.7%

Examples of idioms these additional categories are:

- *X is the son of his mother*, which means *X follows his mother in everything* – source domain: *family relatives*.
- *Shapes and colors*, which means *many kinds/ a variety* – source domain: *natural objects*.
- *X is calling for prayer in ruins*, which means *no one is listening to X* – source domain: *religion*.
- *X is the commander and forbiddor*, which means *X is the decision maker* – source domain: *military*.

4.5.2 Target domains

The target domains of Bahraini idioms with their percentages are displayed in Table 4.3 below.

Table 4.3 Target domains of Bahraini idioms

Target domains	No. of idioms	%
Emotion	26	17.2%
Desire	2	1.3%
Morality	44	29.1%
Thought	1	0.7%
Society	-	0%
Religion	-	0%
Politics	-	0%
Economy	6	4%
Human relationships	26	17.2%
Communication	7	4.6%
Events & actions	30	20%
Time	1	0.7%
Life & death	8	5.3%

The most common target domain is *morality* (44 idioms= 29.1% of the total number of idioms), followed by *events and actions* (30 idioms= 20% of the total number of idioms), *emotion*, and *human relationships* (26 idioms= 17.2% of the total number of idioms each). Examples of these categories are:

- *X has two faces*, which means *X is a hypocrite* – target domain: morality

- *X added wood to the fire*, which means *X made the situation worse* – target domain: events and actions
- *X burst my liver*, which means *X made me angry* – target domain: emotion
- *X is a low wall*, which means *X is a scapegoat* – target domain: human relationships.

Some target domains were not present in the current data such as *society*, *religion*, and *politics*.

There is another way of looking at the current data; using a cross table (Table 4.4), which shows us how source and target domains are associated with each other. It can be observed from Table 4.4 that the most common target domains (*morality*, *events and actions*, *emotions*, and *human relationships*) are primarily achieved through the source domain of *human body*. It also shows that *human body*, as a source domain, is quite diverse because it achieves a lot of purposes (target domains). It can be used to talk about many aspects of life such as emotions, morality, economy, human relationships, etc.

Here are some examples of idioms from the source domain of *human body* with the target domains they serve:

- *X's nerves were destroyed*, which means *X was very nervous* – target domain: *emotion*.
- *X is Y's right arm*, which means *X is Y's assistant* – target domain: *human relationships*.
- *X is raising his nose*, which means *X is a snob* – target domain: *morality*.

- *X's hand is out of control*, which means *X is a squanderer* – target domain: *economy*.

Table 4.4 The distribution of Bahraini idioms across source and target domains

Target Source	Emotion	Desire	Morality	Thought	Economy	Human relationships	Communication	Events and actions	Time	Life and death	Total
Human body	18		22		2	11	2	12		3	70
Health and illness		1				1		3			5
Animals		1	3		2			1	1		8
Buildings and construction			1		1	1					3
Plants			2			1	1				4
Games and sport			1								1
Cooking and food	1		1			1	1	1			5
Economic transactions						1					1
Forces			1	1				1			3
Light and darkness			2					1			3
Heat and cold	1							1			2
Movement and direction	6		8			8	3	8		4	37
Family relatives			3		1			1		1	6
Natural objects								1			1
Religion						1					1
Military						1					1
Total	26	2	44	1	6	26	7	30	1	8	151

4.5.3 Grounding of idioms in human experience

The classification of source domains according to the type of experience yielded 126 idioms grounded in general human experience and 25 idioms grounded in geo-culturally specific experience (the complete list of Bahraini idioms with the type of experience can be found in Appendix 4).

Using English speakers' familiarity ratings from Experiment 3 (section 3.3), an independent samples t-test showed that idioms grounded in general human experience ($M=2$, $SD= 1.45$, $N= 126$) and those grounded in geo-culturally specific experience ($M= 1.15$, $SD= 0.30$, $N= 25$) demonstrated a significant difference in familiarity ($t(148.75)= 6$; $p < 0.001$); as expected idioms grounded in general human experience scored higher familiarity ratings than idioms grounded in geo-culturally specific experience.

It should be noted here that some of the domains listed under geo-culturally specific experience are debatable such as: economic transactions, buildings and construction, machines and tools, and military. Therefore, we re-run the t-test after excluding these domains. Just like earlier analysis, idioms grounded in general human experience ($M=2$, $SD= 1.45$, $N= 126$) and those grounded in geo-culturally specific experience ($M= 1.14$, $SD= 0.31$, $N= 20$) showed a significant difference in familiarity ($t(133.9)= 5.83$; $p < 0.001$).

If we consider this same set of domains as grounded in general human experience and run the t-test, we still get the same results. Idioms grounded in general human experience ($M=1.97$, $SD= 1.44$, $N= 131$) and those grounded in geo-culturally specific experience ($M= 1.14$, $SD= 0.31$, $N= 20$) demonstrated a significant difference in familiarity ($t(134.66)= 5.76$; $p < 0.001$).

The contingency table below (Table 4.5) shows how the frequencies of idioms grounded in general human experience and those grounded in geo-culturally specific experience

are distributed across idiom types (as determined in Experiments 3 and 4). A 3x2 chi-square test showed that the three types of idioms did not significantly differ in the grounding of idiom in human experience, $X^2(2, N= 126) = 3.29, p= 0.193$.

Table 4.5 The frequencies of the three idiom types according to the grounding of idiom in human experience

		Type of idiom		
		Normally decomposable	Abnormally decomposable	Nondecomposable
Type of human experience	General	23 (85.19%)	15 (68.18%)	65 (84.42%)
	Geo-culturally specific	4 (14.81%)	7 (31.82%)	12 (15.58%)

4.5.4 Familiarity with the mappings

We mentioned at the start of section 4.4 that familiarity ratings seem to be associated with the familiarity of the source domain. We found that idioms with source domains grounded in general human experience scored higher familiarity ratings than idioms with source domains grounded in geo-culturally specific experience. Nevertheless, familiarity can also be associated with the mappings between source and target domains. Let us take for example an idiom like *X makes Y crazy*, which means that X is amazing. There is a close idiom in English which is *X is crazy/mad about somebody or something*. The existence of the English idiom should facilitate doing the necessary mappings between source and target domain in the Bahraini idiom. We assume that the familiar mappings led to participants in Experiment 3 rating this idiom as quite familiar (familiarity $M= 3.125$). In addition, we found in earlier experiments (Experiment 3 and 4) a significant effect of familiarity on compositionality. We assume that this familiarity effect is conceptual in nature and results from familiarity with the mappings. For instance, a normally decomposable idiom like *from the sweat of my forehead*, which

means the result of my effort is more likely to have familiar mappings than a nondecomposable idiom like *showed X the noon's stars*, which means gave X a hard time. Hence, we expect the three types of idiom to vary in the mappings familiarity in the following order: normally decomposable, abnormally decomposable, and nondecomposable respectively.

In this section, we try to investigate first, whether familiarity ratings are associated with the familiarity of the mappings between source and target domains; and second, whether the familiarity with the mappings varies across idiom types. We assume that normally decomposable idioms should have more familiar mappings than abnormally decomposable and nondecomposable idioms.

Method

Materials: A total of 66 Bahraini idioms together with their paraphrases (22 idioms from each compositionality group as determined in Experiments 3 and 4) were randomly selected.

Procedure: the idiom-paraphrase list was presented to three judges (two native speakers of English and one non-native speaker) to code the familiarity of the mappings between source and target domains. They were asked “How likely are English speakers to be familiar with the mappings between source and target domains?” They had a binary choice of familiar vs. unfamiliar with disagreement resolved by discussion. This study could not have been run with a wider group of participants without giving away the hypothesis. Therefore, we decided to run it with three judges to determine the likelihood of the familiarity of the mappings.

Results and discussion

Of the 66 idioms, 25 idioms were coded as having familiar mappings while 41 idioms had unfamiliar mappings. Using English speakers' familiarity ratings from Experiment 3 (section 3.3), idioms with familiar mappings ($M= 2.01$, $SD= 0.682$) and those with unfamiliar mappings ($M= 1.27$, $SD= 0.543$) demonstrated a significant difference in familiarity ratings ($t(64)= 4.84$; $p < 0.001$); as expected idioms with familiar mappings scored higher familiarity ratings than idioms with unfamiliar mappings.

The contingency table below (Table 4.6) shows how the frequencies of familiar and unfamiliar mappings are distributed across idiom types. A 3x2 chi-square test showed that the three types of idioms differed in the mappings familiarity coding, $X^2(2, N= 66) = 11.7$, $p = 0.003$.

Table 4.6 The frequencies of the three idiom types according to the mappings familiarity coding

		Type of idiom		
		Normally decomposable	Abnormally decomposable	Nondecomposable
Familiarity coding	Familiar	14 (63.6%)	8 (36.4%)	3 (13.6%)
	Unfamiliar	8 (36.4%)	14 (63.6%)	19 (86.4%)

Follow up 2x2 chi-square tests were conducted to investigate whether normally decomposable idioms are more likely to be coded as 'familiar' and nondecomposable idioms are more likely to be coded as 'unfamiliar'. It should be noted that the p-values in the chi-square analyses below were therefore based on directional predictions for 2x2 contingency tables. All tests revealed significant associations between idiom type and familiarity coding: normally and abnormally decomposable idioms, $X^2(1, N= 44) = 3.27$, $p = 0.035$; abnormally decomposable and nondecomposable idioms, $X^2(1, N= 44) =$

3.03, $p = 0.041$; normally decomposable and nondecomposable idioms, $X^2(1, N = 44) = 11.6, p < 0.001$.

The current results lend credence to the idea that conceptual familiarity, whether familiarity with the source domains or the mappings between source and target domains, is what dominates the English speakers' ratings of familiarity. In other words, when English speakers were asked to rate the familiarity of the Bahraini idioms, although most of the idioms were lexically unfamiliar, they were still aware of their conceptual familiarity with the source domains or the mappings between source and target domains. Reading a lexically unfamiliar idiom seemed to create some associations between the idiom at hand and what is already known in a person's conceptual system.

4.5.5 The interaction between source domain familiarity and the familiarity of the mappings

In order to come up with a model for the classification of idioms, it is important to examine how source domain familiarity and mappings familiarity interact with each other in the three types of idioms. The 66 idioms that were used in the previous study (22 normally decomposable, 22 abnormally decomposable, and 22 nondecomposable idioms) were categorized according to the familiarity of their mappings (as determined in section 4.4.4) and the familiarity of the source domain (as determined in Section 4.4.3). The results of the categorization can be seen in Tables 4.7, 4.8, and 4.9 below.

Table 4.7 The interaction of source domain familiarity and mappings familiarity in normally decomposable idioms

		Source domain		Total
		General human experience	Geo-culturally specific	
Mappings	Familiar	11	3	14
	Unfamiliar	8	0	8
	Total	19	3	

Table 4.8 The interaction of source domain familiarity and mappings familiarity in abnormally decomposable idioms

		Source domain		
		General human experience	Geo-culturally specific	Total
Mappings	Familiar	7	1	8
	Unfamiliar	8	6	14
	Total	15	7	

Table 4.9 The interaction of source domain familiarity and mappings familiarity in nondecomposable idioms

		Source domain		
		General human experience	Geo-culturally specific	Total
Mappings	Familiar	3	0	3
	Unfamiliar	15	4	19
	Total	18	4	

The tables above pose the following questions: are those idioms that have familiar source domains and familiar mappings more likely to be categorized as normally decomposable? Are those idioms that have familiar source domains and unfamiliar mappings more likely to be categorized as either abnormally decomposable or nondecomposable? Are those idioms that have unfamiliar source domains and unfamiliar mappings more likely to be categorized as nondecomposable? Finally, is it possible to have some idioms with unfamiliar source domains but familiar mappings? These questions will be dealt with in Chapter 5.

4.5.6 Conceptual metaphor and variation of Bahraini idioms

A closer look at the Bahraini idioms shows that most idioms, whether grounded in general human experience or geo-culturally specific experience, are motivated by conceptual metaphors found in the literature. Table 4.10 below displays some Bahraini idioms with their paraphrases in addition to the conceptual metaphors that motivate them.

Table 4.10 Examples of Bahraini idioms and the conceptual metaphors motivating them

Type of experience	Bahraini idioms	Conceptual metaphor
Geo-culturally specific experience	<i>X makes a dome out of a seed</i> X exaggerates <i>X grabs the grain and leaves the sack</i> X cares for foolish things	IDEAS ARE PLANTS (Lakoff & Johnson, 1980:47)
	<i>X plays with their tail</i> X is deceptive <i>X plays on both ropes??</i> X double-deals <i>X ties tails</i> X makes unfulfilled promises <i>X is the leader of the birds</i> X doesn't keep a secret	HUMAN BEHAVIOR IS ANIMAL BEHAVIOR (Kövecses, 2002; 124)
General human experience	<i>X opened the tile</i> X got money out of nowhere	WEALTH IS A HIDDEN OBJECT (Lakoff & Johnson, 1980:49)
	<i>X's shadow is light</i> X is witty <i>X's blood is light</i> X is witty	WIT (SENSE OF HUMOR) IS LIGHT (Lakoff & Johnson, 1980:47)
	<i>X's blood is heavy</i> X is stupid	STUPIDITY (STUPIDNESS?) IS HEAVY (Lakoff & Johnson, 1980:47)
	<i>X is torn apart</i> X is very happy	HAPPINESS IS A NATURAL FORCE (Kövecses, 2002; 87)
	<i>X burnt my heart</i> X made me angry	ANGER IS FIRE (Kövecses, 2002; 87)
	<i>X is clinching their teeth</i> X is angry <i>X burst my gall bladder</i> X made me angry <i>X got out of their nature</i> X got angry <i>X burst my liver</i> X made me angry	ANGER IS ANIMAL BEHAVIOR (Kövecses, 2002; 87)
	<i>X dried my saliva</i> I'm tired of insisting on X <i>X dried my blood</i> X exploited me	VITALITY IS A SUBSTANCE (Lakoff & Johnson, 1980: 51)
	<i>My hand's on my heart</i> I'm worried about the results	EMOTIONAL EFFECT IS PHYSICAL CONTACT (Lakoff & Johnson, 1980: 50)
	<i>The wood between X and Y has fallen??</i> X and Y have reconciled	RELATIONSHIPS ARE BUILDINGS (Kövecses, 2002; 108)

	<i>X hides it under the carpet</i> X keeps it secret <i>X burst the clay vessel</i> X revealed the secret	MIND IS A CONTAINER and IDEAS ARE ENTITIES (Gibbs & O'Brien, 1990: 47)
	<i>X eats the green and the dry</i> X is greedy	DESIRE IS HUNGER (Kövecses, 2002; 185)

Table 4.10 demonstrates that many Bahraini idioms are motivated by conceptual metaphors found in English. It also shows that even conceptual metaphors with geoculturally-specific source domains can sometimes be universal, as in HUMAN BEHAVIOR IS ANIMAL BEHAVIOR conceptual metaphor. In this example, the source domain *animals* is geoculturally-specific, nevertheless, it exists in both languages, English and Arabic. This finding supports the idea of universality of conceptual metaphors as proposed by Kövecses (2002). Let us take the image schema for CONTAINMENT as an example. This image schema functions as part of the source domain of the conceptual metaphor ANGER IS HEATED FLUID IN A CONTAINER and it maps onto anger. These metaphorical mappings between certain elements of the embodied experience of *containment* (source domain) and certain elements of *anger* (target domain) give rise to some interesting entailments. Some entailments are given in Table 4.11 below with some examples from both English and Bahraini Arabic.

Table 4.11 Entailments exploited by the ANGER IS HEATED FLUID IN A CONTAINER metaphor

Entailments	Examples from English	Examples from Bahraini Arabic
INTENSE ANGER PRODUCES STEAM	X was fuming.	Smoke is coming out of X.
INTENSE ANGER PRODUCES PRESSURE ON THE CONTAINER (Kövecses, 2002: 96)	X was bursting with anger.	X burst my liver. X burst my gall bladder.

Note that in Bahraini Arabic not only does the intense anger produce pressure on the container (person); it may also produce pressure on certain organs, such as the liver and gall bladder, causing them to burst.

We conclude that although English and Arabic belong to different language families, there are still some universal conceptual metaphors shared by both languages. This explains why English speakers found some of the Bahraini idioms conceptually familiar.

4.6 Discussion

The dominance of the *human body* and *movement and direction* as source domains is due to the salience of these two categories to everyday experience of the world; the more salient the source domain, the more likely it is to be used for metaphorical mapping (Boers, 1999). Moreover, the source domains of many of our idioms are rooted in sensorimotor experience, such as *human body*, *movement and direction*, *light and darkness*, etc. This finding provides support to the idea of the embodied nature of metaphorical thought and language. People tend to create embodied metaphorical representations from the recurring experiences of their bodies and sensori-motor interaction with the physical world (Gibbs, 2003; Gibbs et al., 2004).

Embodied experience plays an important role in people's intuitions about why words and sentences have the meanings they do. What does this mean for the IDH? It means that the meaning of idioms does not have to be analyzable in order for people to understand the relation between the literal meaning and figurative one. Rather, people can rely on their embodied experience to figure out the relation between the literal and figurative meaning of idioms. Take for example an idiom like *X cut the thread* which means X died. This idiom is unfamiliar to English speakers; nevertheless, they might

rely on their experience with “cutting” and “threads” in the physical world to arrive at the figurative meaning of the idiom. In this example, *cutting* maps to the idea of ending and *thread* maps to the thread of life. The role of human experience or embodied cognition in idiom classification will be discussed thoroughly in Chapter 5.

The current findings support earlier findings in sections 3.6 and 3.7; 86.1% of English speakers of Bahraini idioms are grounded in general human experience, therefore, English speakers did not have difficulty categorizing them. The ease of categorizing idioms is due to the fact that English speakers are already familiar with the source domain through their experience of living and moving around the world. Also, familiarity of the source domain made the entire idiom seem familiar. In addition, it is easy to create mappings from a source domain in which you are an expert (like the *human body*).

In addition, our findings regarding the familiarity with the mappings between source and target domains (section 4.4.4) provides further support to our hypothesis that conceptual familiarity rather than lexical familiarity is what determines decomposability as well as syntactic flexibility. We found in Experiment 5 that English speakers regarded normally decomposable idioms to be more syntactically flexible than abnormally decomposable or nondecomposable ones. It seems here that syntactic versatility is not restricted by the syntax of the idioms. Rather, it is the semantics of the idiom that determines the degree to which the syntactic structure can be altered. This idea will be discussed in details in Chapter 5.

People’s intuitions about the meaningfulness of these novel idioms support the cognitive linguistics view that conceptual metaphors exist independently of other conceptual systems and underlie many aspects of our thinking, reasoning, and imagination (Lakoff, 1987). These findings are also consistent with Gibbs (1999).

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Gibbs et al. (1997) who found that conceptual metaphors are accessed during people's normal comprehension of idioms.

Contrary to the traditional view of idioms (Weinreich, 1969; Katz and Postal, 1963), the current findings, cognitive linguistics research (Lakoff, 1987), and psycholinguistics studies (Gibbs, 1992; Gibbs et al., 1997) have collectively shown that idioms are not dead metaphors. Instead, idioms retain a good deal of their metaphoricity because they arise from conceptual metaphors with metaphorical mappings between embodied source domains and abstract target domains.

4.7 Conclusion

In this chapter, we examined the role of conceptual metaphor in how English speakers rate the familiarity of Bahraini idioms. A major finding from the experiment discussed in this chapter is that the source domains in many conceptual metaphors underlying Bahraini idiom are structured as image schemas which arise from recurring bodily experiences. One implication of our findings in this chapter is that decomposability of novel idioms rests on the degree to which these idioms are embodied. Idioms that reflect conceptual metaphors with image schemas grounded in embodied experience seem to be more decomposable than those which are not grounded in embodied experience. This implication provides the basis for the model we propose in Chapter five for idiom classification.

5 Chapter five: A model of idiom classification

This chapter is divided into seven sections. The first section is an overview of the research questions answered so far. The second section discusses the validity of the IDH. The third section highlights the role of familiarity in semantic composition and syntactic flexibility. The fourth section sets the layout of the model. The fifth section outlines the Familiarity Integration Model. The sixth section discusses the model in depth. Finally, the seventh section provides a summary of the model.

5.1 Overview

In the previous chapters, we found that:

- Bahraini speakers agree on the classification of idioms according to their degree of semantic compositionality into normally and abnormally decomposable, but not into the nondecomposable category. This classification is contingent on the lexical and/or conceptual familiarity of idioms because it is difficult to separate the two when testing idioms with native speakers of the language (Sections 3.1- 3.2).
- English speakers agree on the classification of idioms according to their degree of semantic compositionality into normally decomposable, abnormally decomposable, and nondecomposable. This classification is contingent on the conceptual familiarity of idioms (Sections 3.3- 3.4).
- The syntactic flexibility of idioms varies according to the degree of semantic compositionality. This variation is affected by the conceptual familiarity of idioms (Section 3.5).

- Idioms are grounded in human experience based on their source domains into those grounded in general human experience and those grounded in geo-culturally specific experience. Idioms grounded in general human experience are more conceptually familiar than those grounded in geo-culturally specific experience (Section 3.6).

Given all the findings and analysis in Chapters 3 and 4, we arrive at the final question in this thesis:

- How are idioms actually comprehended?

In the sections that follow, we try to balance the validity of the IDH – in light of all the evidence found so far – and propose a modal for idiom comprehension.

5.2 Idiom decomposition hypothesis revisited

In this section we try to evaluate the adequacy of the IDH to account for the semantic compositionality and the syntactic flexibility of idioms.

First of all, we need to decide on the validity of classifying idioms into three compositionality groups: normally decomposable, abnormally decomposable, and nondecomposable. Table 5.1. below compares the findings of four studies (Gibbs and Nayak, 1989; Tabossi et al., 2008; Experiments 1 and 2 with Arabic speakers; and Experiments 3 and 4 with English speakers) in order to answer the following question: is the classification of idioms into these groups justified?

Table 5.1 Agreement between participants on the classification of idioms into the three compositionality groups, where ticks mean significant agreement was found, and crosses mean it was not.

Studies	Compositionality groups		
	Normally decomposable	Abnormally decomposable	Nondecomposable
Gibbs and Nayak, 1989	√	√	√
Tabossi et al., 2008	X	X	X
Arabic speakers	√	√	X
English speakers (translated idioms)	√	√	√

We can see from Table 5.1 that there is some support for the three groups of idioms but there are clearly some problems with the classification scheme. For instance Tabossi et al. did not find significant agreement on any of the three groups and in our experiment with the Arabic speakers, we did not find significant agreement on the nondecomposable category. We assume that the reason of this discrepancy is familiarity. Since decomposability is contingent on familiarity, idioms are more likely to cluster into decomposable/nondecomposable categories if they represent a range from relatively familiar to unfamiliar. However, the familiarity span of Tabossi et al.'s idioms was very limited (i.e., their idiom set was at the higher end of the familiarity scale). In other words, there were very few idioms that would be considered as unfamiliar and hence, nondecomposable. In contrast, in our experiment with the Arabic speakers, our idiom set varied in familiarity (from not at all familiar to highly familiar). Still, participants found the majority of idioms to be highly familiar (at the lexical level). Consequently, they categorized more familiar idioms as decomposable (134 idioms; familiarity mean= 5.75) and less familiar idioms as nondecomposable (17 idioms; familiarity mean= 3.63). Decomposable idioms were judged with a level of agreement significantly above chance (78.93%, $p = 0.002$). However, there was little agreement on the nondecomposable category (52.75%, $p = 0.391$) possibly because of the small

number of idioms in this category. On the balance of evidence provided above, we think that classifying idioms into three groups is still valid. However, this validity rests on the adequacy of the three groups to account for the syntactic behavior of idioms. Gibbs and Nayak (1989) primarily advocated the IDH to account for the syntactic behavior of idioms, therefore, it is worthwhile to see if they achieved their purpose.

We need to decide on the validity of the claim that semantic compositionality actually determines syntactic flexibility. Table 5.2. below compares the effects found in three studies (Gibbs and Nayak, 1989; Tabossi et al., 2008; and Experiment 5 with English speakers).

Table 5.2 Critical effects of syntactic flexibility

Studies	Idiom type	Syntactic operation	Effects	
			Familiarity	Notes
Gibbs and Nayak, 1989	✓	✓	N.A.	
Tabossi et al., 2008	X	✓	N.A.	Idiom type was only significant in the analysis by subjects
English speakers (translated idioms)	✓	X	✓	Type of syntactic operation was only significant in the analysis by subjects

Both Gibbs and Nayak (1989) and our experiment with the English speakers (Experiment 5) found an effect of idiom type while Tabossi et al. (2008) did not. In Tabossi et al., idiom type was only significant in the analysis by subjects. Therefore, we can say that idiom type seems to affect, at least to some extent, syntactic flexibility. The type of syntactic operation might affect syntactic flexibility, however, we did not find an effect in our experiment with the English speakers (or at least, any differences were weak and not reliable in the by-items analysis). Furthermore, we found an effect of familiarity which was not depicted by the other two studies (Section 3.6).

On the balance of evidence found above, we conclude that semantic compositionality may account for the syntactic flexibility of idioms but not on its own because Gibbs and Nayak (1989) themselves found some anomalous results. They found that although abnormally decomposable idioms are analyzable, they are difficult to syntactically alter. The inclusion of abnormally decomposable idioms in their analysis decreased the correlation between semantic decomposition and syntactic productivity. Gibbs and Nayak then admitted that the IDH is not the only predictor of the syntactic behavior of idioms. They suggested some other factors that might affect the syntactic productivity of idioms like the age of the idiom, familiarity, and frequency of the idiom. Our findings in Experiment 5 actually proved that both semantic composition and familiarity affect the syntactic productivity of idioms.

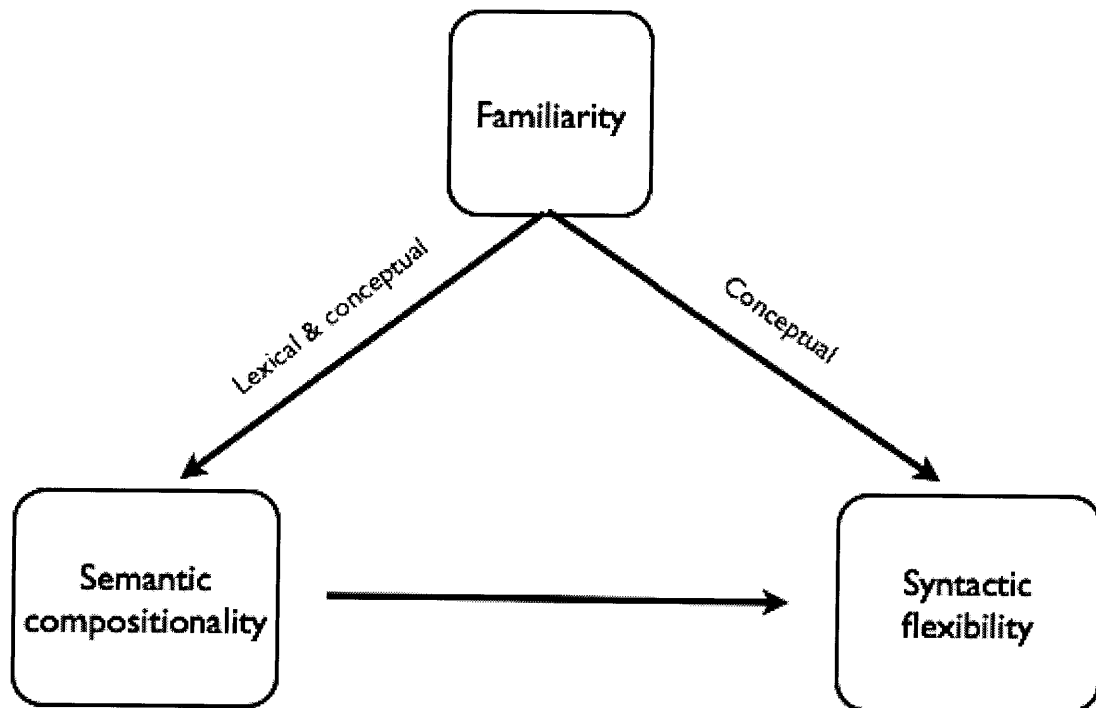
What is left then from the IDH? We found that only the three groups of idioms are robust across studies. However, we think that decomposability exists on a continuum – from nondecomposable to decomposable – rather than three distinct groups or categories. Gibbs and Nayak (1989) say that “Analyzability is not a dichotomous concept, but is really a matter of degree depending on the salience of the individual parts of any complex linguistic expression” (p.127). In some idioms like *skate on thin ice*, the individual lexical items play salient roles in the idiom’s figurative meanings, while in other idioms like *kick the bucket*, they have very little to do with the overall figurative meaning. This hypothesis was later refuted by Hamblin and Gibbs (1999) who found that even nondecomposable idioms are not completely frozen because part of their figurative meanings is shaped by the verbs used in these idioms. For example, the verb kick in *kick the bucket* implies quickness or suddenness, therefore, the idiom means “to die suddenly” and not “to die slowly”. On the analyzability continuum Gibbs and Nayak (1989) propose, there are also intermediate degrees of analyzability between

the two extremes. For example *fall off the wagon* is seen as less decomposable than *pop the question*. The reason for this is the meaning that *fall* contributes to the idiom *fall off the wagon* is less salient than the meaning that *pop* contributes to the idiom *pop the question*. That is because the individual components of *pop the question* are in the same semantic field (or “experiential gestalt” (Lakoff and Johnson, 1980)) as their idiomatic referents. Thus, *pop* is syntagmatically related (i.e., words that go together because they center on regularly recurring experiences (Gibbs and Nayak, 1989: 107)) to the idea of “proposing”.

5.3 The role of familiarity in semantic composition and syntactic flexibility

Familiarity seems to play a crucial role in semantic composition as well as syntactic flexibility. We looked at two sub-types of familiarity in this thesis: lexical and conceptual. Lexical familiarity refers to the familiarity with the lexical phrase in a language, while conceptual familiarity refers to the familiarity with the source domains of the conceptual metaphors motivating the idioms or the familiarity of the mappings between the source and target domains. Figure 5.1 below displays how the different types of familiarity (lexical vs. conceptual) affect both semantic composition and syntactic flexibility, as well as how semantic composition may also affect syntactic flexibility.

Figure 5.1: The effects of familiarity



The diagram above shows that both lexical and conceptual familiarity may affect semantic composition. We found in our experiments with the Bahraini speakers that lexical and/or conceptual familiarity affected their ratings of semantic composition (Experiments 1 and 2). When testing native speakers of a language, it is difficult to distinguish between lexical and conceptual familiarity. However, testing translated idioms allows us to isolate conceptual familiarity. Hence, we found in our experiments with the English speakers that conceptual familiarity affected their ratings of semantic composition (Experiments 3 and 4). Therefore, we can say that judging the semantic composition of idioms is based on conceptual familiarity since the decomposability agreement was stronger for English speakers than Bahraini speakers. Similarly, we found that conceptual familiarity affected the English speakers' ratings of syntactic flexibility.

Let us demonstrate this through some examples. The idiom *from the sweat of someone's forehead* which means the fruit of someone's effort was categorized as normally decomposable by the English speakers. It has a familiarity mean of 2.13 and a syntactic flexibility mean of 5.84. We assume that it was categorized as normally decomposable due to the existence of a close idiom in English which is *by the sweat of one's brow*. This idiom has a familiar source domain – *human body* – and familiar mappings (because the existence of the English idiom facilitated doing the necessary mappings between source and target domains: *human body* → *events and actions*). The conceptual familiarity of this idiom also affected its syntactic flexibility judgement and hence was seen as syntactically flexible. This idiom was accepted in different constructions such as adjective insertion (He earned all this money *from the hardworking sweat of his forehead*) and adverb insertion (Sara bought the car *purely from the sweat of her forehead*).

Let us take for example a nondecomposable idiom like *X broke my paddles* which means X disappointed me. This idiom has a familiarity mean of 1.38 and syntactic flexibility mean of 3.64. Although the source domain of this idiom is familiar – *movement and direction*, the mappings between source and target domains (*movement and direction* → *emotion*) were unfamiliar to English speakers. Since this idiom was conceptually unfamiliar, it was categorized as nondecomposable and was consequently rated as less syntactically flexible. This idiom was less acceptable in constructions such as passivisation (The entire cast of the play was waiting for Tom. Luckily, *their paddles were not broken* by him).

Gibbs and Nayak (1989) claim that semantic compositionality actually determines syntactic flexibility. However, based on our argument above, is this claim still valid? We think that since what sets the three compositionality groups apart is familiarity, then

judgements of syntactic flexibility are genuinely based on familiarity and not semantic composition. We think that conceptual familiarity is more important than lexical familiarity since it plays a crucial role in semantic composition as well as syntactic flexibility. Conceptual familiarity is also important because it exists at the conceptual level, and hence facilitates cross-cultural language comprehension.

5.4 The layout of the model

Before we propose a model for idiom classification we need to answer the questions we raised at the end of Section 4.4.5: first, are those idioms that have familiar source domains and familiar mappings more likely to be categorized as normally decomposable? Second, are those idioms that have familiar source domains and unfamiliar mappings more likely to be categorized as either abnormally decomposable or nondecomposable? Third, are those idioms that have unfamiliar source domains and unfamiliar mappings more likely to be categorized as nondecomposable? Finally, is it possible to have some idioms with unfamiliar source domains but familiar mappings?

The evidence in this thesis suggests that there are three categories of idioms: idioms with familiar source domains and mappings, idioms with familiar source domains and unfamiliar mappings, and idioms with unfamiliar source domains and mappings (Table 5.3 below).

Table 5.3 The interaction of source domain familiarity and mappings familiarity

	Familiar source domain ¹	Unfamiliar source domain ²
Familiar mappings	Normally decomposable Abnormally decomposable	
Unfamiliar mappings	Abnormally decomposable Nondecomposable	Nondecomposable

5.4.1 Familiar source domain; familiar mappings

Idioms with familiar source domains and mappings are likely to be normally or abnormally decomposable. Examples of idioms in this category include:

- *my heart has stopped*, which means I am very scared; source domain: *human body*; target domain: *emotion*; normally decomposable; familiarity $M= 2.63$.
- *X's sound extinguished*, which means X died; source domain: *human body*; target domain: *life and death*; abnormally decomposable; familiarity $M= 1$.

What distinguishes normally from abnormally decomposable idioms in this category is familiarity of the mappings. In the examples above *my heart has stopped* has more familiar mappings than *X's sound extinguished* although they both have the same source domain (*human body*).

5.4.2 Familiar source domain; unfamiliar mappings

Idioms with familiar source domains and unfamiliar mappings are likely to be abnormally decomposable or nondecomposable. Examples of idioms in this category include:

- *X burnt my heart*, which means X made me angry; source domain: *human body*; target domain: *emotion*; abnormally decomposable; familiarity $M= 1.25$. It

¹ Familiar source domains come from both general human and geo-cultural experience (i.e., where specific components of geography or culture happen to be similar across language groups).

² Unfamiliar source domains come from geo-culturally specific experience.

should be noted here that although this idiom has the same kind of mappings as *my heart has stopped* (*human body* → *emotion*), both idioms differ in the familiarity of the exact mappings involved. The mapping of *burnt heart* → *anger* is less familiar than the mapping of *stopped heart* → *afraid*.

- *X's shadow is light*, which means X is witty; source domain: light and darkness; target domain: morality; nondecomposable; familiarity $M=1$.

What sets abnormally decomposable apart from nondecomposable is the overall familiarity rating and/or the familiarity of the source domain or the mappings. For instance, *X burnt my heart* has more familiar mappings than *X's shadow is light*.

5.4.3 Unfamiliar source domain; unfamiliar mappings

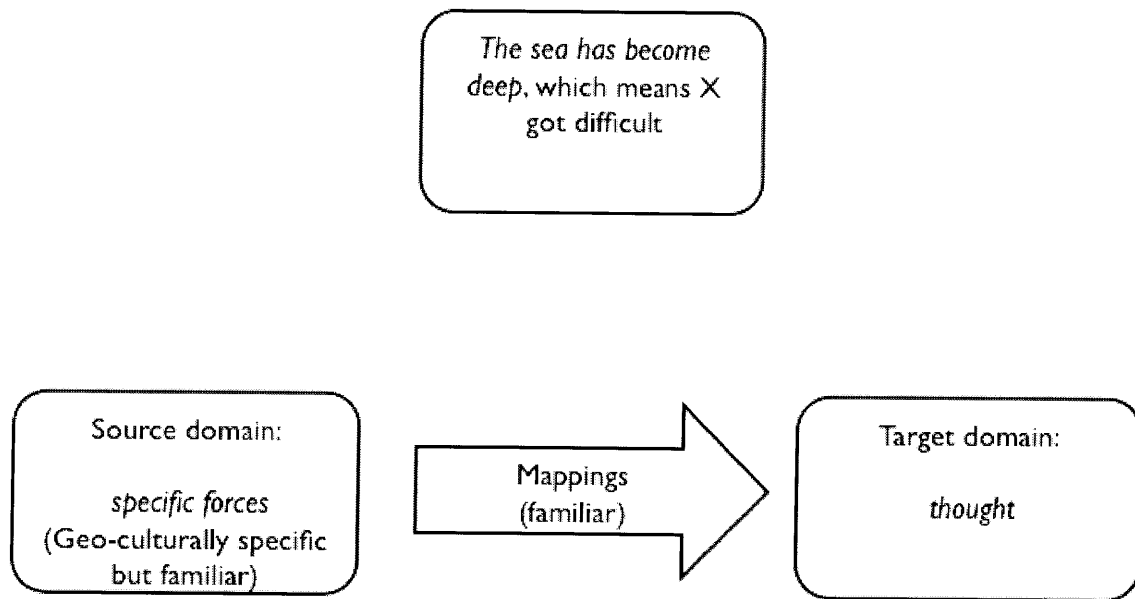
Idioms with unfamiliar source domains and mappings are likely to be nondecomposable. An example of idiom in this category is:

- *X opened the tile*, which means X got money from nowhere; source domain: *buildings and construction*; target domain: *economy*.

5.4.4 General/geo-cultural human experience and familiarity

Although the general/geo-cultural human experience distinction is a useful guideline, it is essential to examine the idioms individually to determine whether a specific source domain is familiar or unfamiliar to the language group in question. Idioms grounded in general human experience are not always familiar while idioms grounded in geo-cultural human experience are not always unfamiliar, either. Some source domains are grounded in geo-cultural experience, however, English speakers living in the 21st century are likely to be familiar with these domains and hence have no difficulty doing the necessary mappings. Let us examine some of these occurrences from our data.

Figure 5.2: An illustration of the mappings involved in the idiom 'the sea has become deep'



In this example (Figure 5.2), the idiom *the sea has become deep* has a geo-culturally specific source domain – *specific forces* – which is explicitly the sea in this idiom. Although the source domain of *specific forces* is geo-culturally specific (and hence likely to be unfamiliar to some participants), it is quite probable that all our English-speaking participants were familiar with the sea. Moreover, the mappings between source and target domains are quite familiar due to the existence of an English idiom with a similar meaning which is *be in deep water*. This idiom was categorized as abnormally decomposable by English speakers.

Figure 5.3: An illustration of the mappings involved in the idiom 'to play on both ropes'

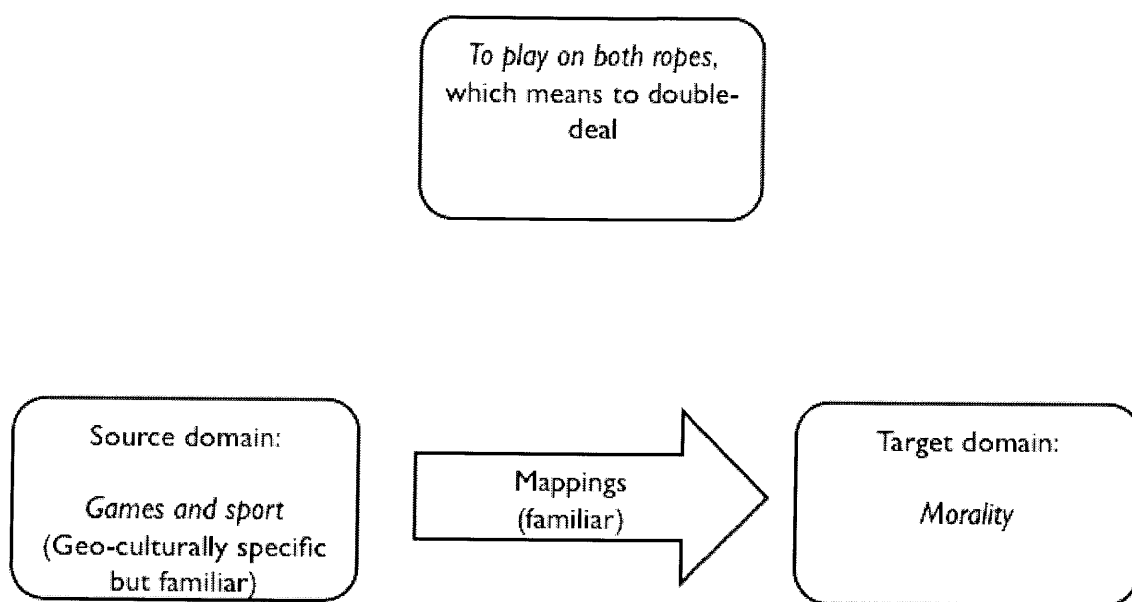


Figure 5.3 demonstrates that the idiom *to play on both ropes* has a geo-culturally specific source domain – *games and sport*, though the idea of playing with ropes (i.e. skipping) is very common in the British culture. Hence, this source domain was quite familiar to the English-speaking participants even though *games and sport* is usually geo-culturally specific. The mappings of *games and sport* → *morality* is familiar through the idea of cheating or double-dealing. When someone cheats at a game or sport, he is being deceitful to their advantage and others' disadvantage. This idiom was categorized as normally decomposable.

Figure 5.4: An illustration of the mappings involved in the idiom 'X's market has risen'

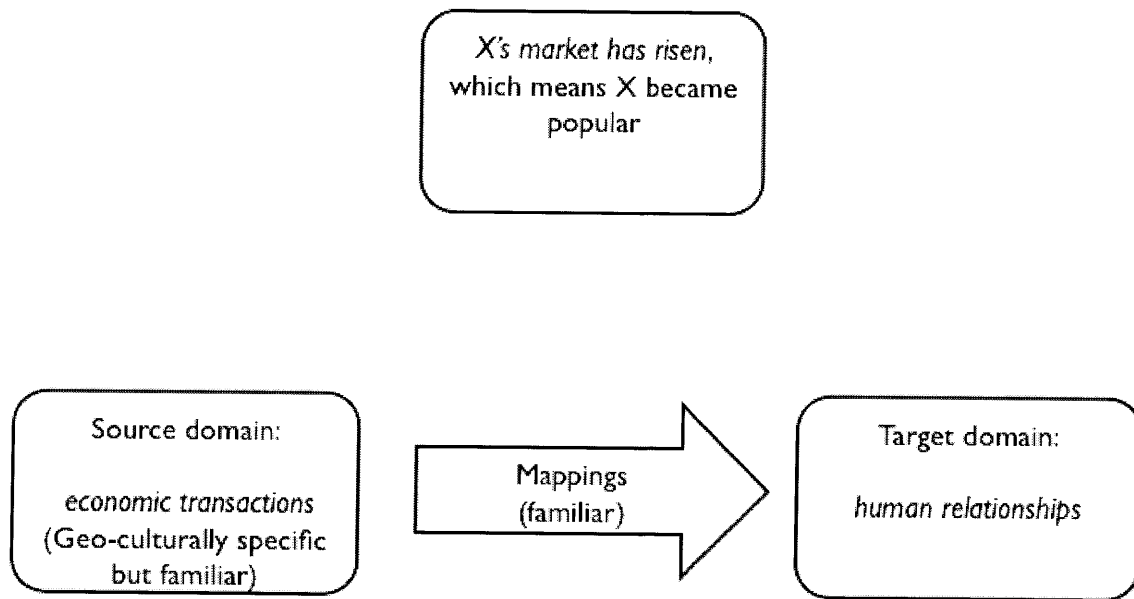
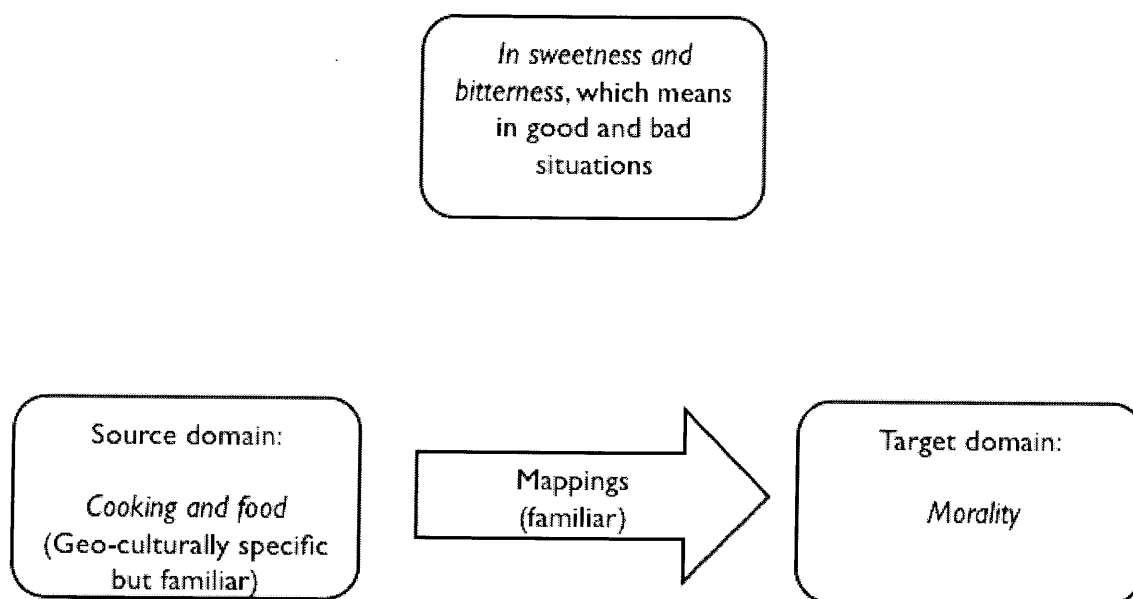


Figure 5.4 shows that the idiom *X's market has risen* has a geo-culturally specific source domain. Nevertheless, most English speakers nowadays have some basic knowledge about *economic transactions* unlike people in the Middle Ages for instance. It is likely that this source domain was familiar to our English-speaking participants. The mappings of *market* $\rightarrow$ *popularity* is familiar through the idea of value (i.e., *economic value* $\rightarrow$ *social value*). This kind of mapping is found in the English idiom *X's stock has risen*, which means X's reputation has improved. This idiom was categorized as normally decomposable.

Figure 5.5: An illustration of the mappings involved in the idiom 'in sweetness and bitterness'



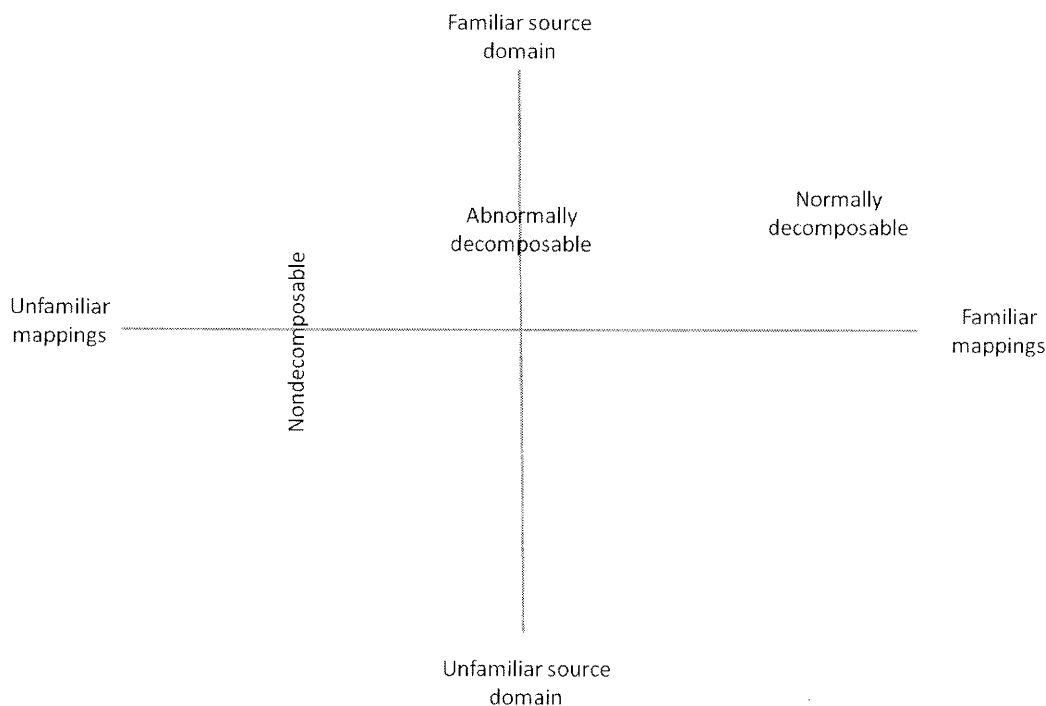
The idiom *in sweetness and bitterness* (Figure 5.5) has a geo-culturally specific source domain which is *cooking and food*. However, there are some prototypes for *cooking and food* which people around the world share. Therefore, it is likely that this source domain was familiar to the English speakers. The mapping of *cooking and food* → *morality* is familiar due to the existence of a proverb in English that contains the same meanings for “sweetness” and “bitterness”. This proverb is “take the bitter with the sweet” which means accept the bad things as well as the good things that happen. It is also equivalent to the phrase *in sickness and in health* which is part of the wedding vows. Having done the mappings between “sweetness and bitterness” and “good and bad” or “health and sickness” in English before facilitated doing the mappings in the Bahraini idiom. Therefore, this idiom was categorized as normally decomposable.

5.5 Familiarity Interaction Model (FIM)

We demonstrated in the previous section how the interaction of the familiarity of the source domain and mappings results in three categories of idioms. These categories can

be illustrated visually as in Figure 5.6 below. Let us assume that the X-axis is the familiarity of the mappings and the Y-axis is the familiarity of the source domain. Normally decomposable idioms are those with familiar mappings and familiar source domains, abnormally decomposable idioms are those with familiar source domains but can have either familiar or unfamiliar mappings, and nondecomposable idioms are those with unfamiliar mappings but with either familiar or unfamiliar source domains.

Figure 5.6 The relative existence of the three groups of idioms on the source domain familiarity and mappings familiarity axes according to the FIM



We notice here that there is some overlap between the three categories. For example, normally and abnormally decomposable idioms might overlap; both can have familiar mappings and familiar source domains. Also, abnormally decomposable and nondecomposable idioms might overlap; both can have familiar source domains and

unfamiliar mappings. Therefore, the three categories are not distinct from one another due to the partial overlap between them. We think that this overlap is normal because as we mentioned in Section 5.2, semantic composition is a continuum and not distinct categories. Therefore, the overlap between the three categories helps the natural flow across the continuum. Whether an idiom is normally decomposable, abnormally decomposable, or nondecomposable is a matter of degree depending on how familiar the source domain and the mappings are.

5.6 Discussion of the (FIM)

The FIM is aimed to be an improvement over the IDH which received some support from some studies (e.g., Bortfeld, 2003; Hatchard, 2008) but was also criticised by others (e.g., Titone and Connine (1994; Tabossi et al., 2008). The new model we propose in this thesis helps to resolve these discrepancies by presenting a new factor that has proved to affect the semantic composition of idioms: familiarity.

The discrepancies found in the literature about the IDH center on the following points:

- People's intuitions about how the meanings of the parts contribute to the idiomatic meaning are not always consistent.
- The inconsistency of evidence that the semantic compositionality influences the syntactic productivity of idioms.

We agree with the IDH that idioms are partly decomposable and that people have clear intuitions about how the meanings of the parts contribute to the idiomatic meaning. However, evidence in this thesis has shown that people's intuitions on the semantic compositionality of idioms are actually influenced by familiarity.

Tabossi et al. (2008) questioned the ease with which one can distinguish between decomposable and nondecomposable and between normally and abnormally

decomposable idioms. For example, they wondered why judges in Cutting and Bock's (1997) study categorized *hold your tongue* as decomposable and *shoot the breeze* as nondecomposable (i.e., in what way is *shoot the breeze* less decomposable than *hold your tongue*?). We think that although both idioms refer to "talking", they are different from one another in terms of familiarity. Although both of them have familiar source domains; *human body* and *general forces* respectively, the familiarity of the mappings differs. The mapping of *tongue* → *talking* is more familiar than the mapping of *breeze* → *talking*, because there are many other expressions that use 'tongue' as a synonym for speech, such as *to get one's tongue around X* which means to pronounce X, and *mother tongue* which means native language spoken from infancy.

The failure of Titone and Connine (1994) and Tabossi et al. (2008) to replicate Gibbs and Nayak's (1989) findings might be due to the fact that Gibbs and Nayak pre-selected items for each category by experimenters' intuition, then they showed that participants agreed with them (and each other) about the categorization. This approach leaves open the possibility that Gibbs and Nayak based their intuitions at least partly on familiarity, and that participants agreed with the categorization because they too were guided by familiarity. We assume that they categorized highly familiar idioms as normally decomposable, less familiar idioms as abnormally decomposable, and the least familiar idioms as nondecomposable. For example, they categorized *pop the question* as normally decomposable because it has a familiar source domain – *movement and direction* – and familiar mappings (*pop* → *suddenly asking*; *question* → *marriage proposal*). They categorized *spill the beans* as abnormally decomposable because it has a familiar source domain – *cooking and food* – (because *beans* are quite familiar) and unfamiliar mappings (*beans* → *secret*). They categorized *shoot the breeze* as nondecomposable because it has a familiar source domain – *general forces* – and

unfamiliar mappings (shoot→ talk; breeze→ idle conversation). This categorization actually conforms to the categorization established in the FIM. Consequently, Gibbs and Nayak got significant agreement when they presented the idioms to their participants who were also native speakers of English and shared the same geographical and cultural experience. Hence, they categorized idioms based on their familiarity just like Gibbs and Nayak did. On the other hand, Titone and Connine (1994) and Tabossi et al. (2008) did not pre-select idioms by experimenter intuition, and hence did not pick ‘good examples’ of each category type as Gibbs and Nayak did. Another reason for the failure of Tabossi et al. could be the short familiarity span depicted in their study. We mentioned in section 3.1 that Gibbs and Nayak used a binary choice (i.e., familiar versus unfamiliar), and then used only familiar items in their experiments, while Tabossi et al. used a Likert scale (from 1 ‘not at all familiar’ to 7 ‘very familiar’) that showed that the majority of their idioms are at the upper end of the scale (Mean familiarity = 5.86). It can be seen here that Gibbs and Nayak’s item set contained more variance than did Tabossi et al.’s. The greater variance in familiarity might have resulted in better distinctions between the three compositionality groups.

The other issue that needs to be resolved is whether compositionality influences the syntactic productivity of idioms. Tabossi et al. (2008) concluded that people’s intuitions on the semantic analyzability of idioms do not determine their judgements of the acceptability of syntactic variation and they attributed their failure to the low compositionality ratings they obtained in their study. Nevertheless, findings from this thesis have shown that both semantic analyzability and conceptual familiarity determine the syntactic flexibility of idioms. Syntactic flexibility seems to be determined at the conceptual level and not at the lexical level. English speakers’ judgements, in our Experiment 5, were not made based on their knowledge about the lexical structure of

idioms (lexical familiarity) because idioms were translated from Arabic. Rather, they based their judgements on their knowledge of the conceptual structure of the idiom (conceptual familiarity) and the role each constituent plays in the figurative meaning. The more familiar the source domain and/or the mappings are the more syntactically flexible the idiom is. We demonstrated in Section 5.2 that the constituent is seen as more salient in the figurative meaning when it shares the same semantic field as its referent. Gibbs and Nayak (1989) explain how familiarity with an idiom might affect the syntactic flexibility:

An individual's limited experience with an infrequent idiom should have some influence on that person's perception of the analyzability of the expression. To the extent that an idiom's parts are not very salient, then a speaker should judge that phrase as being relatively limited in its syntactic productivity. (p.129)

5.7 Model summary

In this section, we try to summarise the main points of the FIM and its advantages over other models.

According to the FIM, compositionality is a continuum with three main categories of idioms that partially overlap. The three categories are: idioms with familiar source domains and mappings (normally or abnormally decomposable), idioms with familiar source domains and unfamiliar mappings (abnormally or nondecomposable), and idioms with unfamiliar source domains and mappings (nondecomposable).

The FIM has some advantages over the other models or theories of idiom compositionality. First, it introduces familiarity as a new factor that has been proved to affect semantic compositionality. Second, it seems to resolve the discrepancies found in the literature regarding whether people have clear consistent intuitions about the semantic compositionality of idioms. Finally, it links compositionality with conceptual metaphor theories. For instance, the IDH proposes that the constituents of the idiom can

be related to their meanings paradigmatically or syntagmatically¹ as we explained in Section 2.2.2. The FIM examines the source domains and the mappings between the source and target domains. The familiarity of the source domain, for example, can determine whether there are any paradigmatic relations between the constituents, while the familiarity of the mappings can determine whether there are any syntagmatic relations between the constituents.

In the next chapter, we try to discuss the contribution this thesis makes towards the wider literature on idiom comprehension and compositionality.

¹ Paradigmatic relations exist when the meanings of the lexical items are similar or different from one another in certain ways (i.e., synonymy, antonymy, and hyponymy). Syntagmatic relations, on the other hand, exist when the lexical items center on a specific experience, activity, or event (e.g., horse, hay, and rider are all related to the field of horsemanship).

6 Chapter Six: Conclusion

This chapter addresses four main points: the novelty of the thesis, the major findings of this thesis, limitations, and future work.

6.1 Novelty of this thesis

- Findings from this thesis have shown that idioms are not dead metaphors and that participants can access the conceptual knowledge behind most idioms even from languages they do not speak.
- This thesis presented familiarity as a new factor that affects both semantic composition and syntactic flexibility of idioms.
- The model presented in this thesis modifies the three compositionality groups suggested by the IDH by categorizing idioms according to the familiarity of the source domain and the mappings. Hence, we suggest three groups of idioms: (1) idioms with familiar source domains and mapping, (2) idioms with familiar source domains and unfamiliar mappings, and (3) idioms with unfamiliar source domains and mappings.

6.2 Major findings and their interpretations

This thesis investigated the main claims of the IDH: people have clear intuitions on idiom compositionality, which consequently determines the syntactic flexibility of idioms. It also examines the effect of familiarity on semantic composition as well as the syntactic flexibility of idioms. It further explores the grounding of idioms in human experience. The major findings related to these aspects are discussed in the sections below.

6.3 Semantic compositionality and familiarity

Experiments 1 and 2 showed that Bahraini speakers agreed on the classification of idioms according to their degree of semantic compositionality into normally and abnormally decomposable, but not into the nondecomposable category. This classification was contingent on the lexical familiarity of idioms, i.e., highly familiar idioms were seen as normally decomposable, less familiar idioms were seen as abnormally decomposable, and unfamiliar ones were seen as nondecomposable. Experiments 3 and 4 showed that English speakers agreed on the classification of idioms according to their degree of semantic compositionality into normally decomposable, abnormally decomposable, and nondecomposable. This classification was contingent on the conceptual familiarity of idioms. Conceptually familiar idioms were seen as normally decomposable, less familiar idioms were seen as abnormally decomposable, and conceptually unfamiliar idioms were seen as nondecomposable.

When testing native speakers of a language, lexical and conceptual familiarity conflate to the extent that it is difficult to say whether it is lexical or conceptual familiarity that affects their judgements. By presenting translated idioms to English speakers, we managed to extract the effect of lexical familiarity. Hence, any effect found afterwards was primarily due to conceptual familiarity.

Previous work, for example Bortfeld (2003), presented participants with translated idioms from languages they did not speak assuming that this procedure would extract the effect of familiarity. However, this thesis has shown that familiarity exists on two levels; lexical and conceptual. Eliminating lexical familiarity does not imply eliminating conceptual familiarity. Therefore, when the English speakers in Bortfeld's study were presented with unfamiliar Latvian and Mandarin idioms, they could still categorise them

into their semantic categories because they were conceptually familiar (in varying degrees) with the source domains and/or the mappings of these idioms. This resulted in normally decomposable idioms (most conceptually familiar) being most often categorised correctly, abnormally decomposable idioms (less conceptually familiar) being less often categorised correctly, and finally nondecomposable idioms (the least conceptually familiar) being the least often categorised correctly. Let us demonstrate this through some examples from the insanity category from Bortfeld's data. The Latvian idiom *to leave one's brain* might be conceptually familiar to English speakers due to the existence of the English idiom *to be out of one's mind*. 'Brain' and 'mind' can be seen as synonyms. Having done the mappings in the English idiom before might have facilitated doing the mappings in the Latvian idiom. Therefore, this idiom was categorized as normally decomposable by English participants. Similarly, the Latvian idiom *to come off one's hinges* was categorized as abnormally decomposable by English participants. This idiom is closely related to the English idiom *to come apart at the seams*. Both 'hinges' and 'seams' are used to link two things together and once they get apart, it means losing control of them. There is also another idiom in English with a similar meaning: *X is unhinged*, meaning X is mentally unbalanced. In this example, 'hinges' map to 'sanity'. The concept behind the idiom might have been quite familiar and hence the participants categorized it as abnormally decomposable. Finally, the Latvian idiom *to go to butter* was categorized as nondecomposable. It is possible that mapping butter→ insanity is conceptually unfamiliar to English participants and this could be one reason why the participants did not see any relation between the idiom and its figurative meaning.

6.3.1 Syntactic flexibility

Findings from earlier research and this thesis lead us to conclude that the syntactic flexibility of idioms depends on two factors. First, some patterns of syntactic flexibility vary according to an idiom's degree of compositionality (semantic analysability). Second, other patterns depend on the availability of the literal meaning, conceptual knowledge, and the way they create figurative meaning, i.e., conceptual familiarity (familiarity with the source domain and/or the mappings) (Langlotz, 2006).

In experiment 5, we presented translated idioms to English speakers to judge their acceptability in syntactically altered constructions. We found that English speakers consistently agreed that idiom types varied in their syntactic flexibility with normally decomposable idioms being most syntactically flexible, abnormally decomposable being less flexible, and nondecomposable idioms being the least flexible.

Semantic composition is not the sole predictor of syntactic flexibility (Gibbs and Nayak, 1989). They suggest some other factors that might affect the syntactic flexibility of idioms, such as the age of the idiom, frequency of the idiom, and familiarity. They state that "familiarity might itself allow speakers to have greater awareness of the role that the individual components in an idiom contribute to its overall figurative interpretation." (p.129)

Some studies have tried to explain the syntactic flexibility of idioms based on the syntactic structure of the idioms. For instance, Newmeyer (1972, 1974) suggested that idioms like *kick the bucket* and *shoot the bull* cannot passivize because their figurative referents are intransitive verbs (die and talk respectively). However, Nunberg (1978) showed that although the figurative referents are intransitive verbs in *give up the ghost* and *throw in the towel* (die and resign respectively), both idioms can be passivized.

Therefore, the one-to-one correspondence between the constituents of an idiom and their referents is not enough to explain the syntactic flexibility of idioms.

The communicative function of idioms might be another factor that affects syntactic flexibility. Glucksberg (1993) argues that some nondecomposable idioms can be syntactically flexible and this flexibility can be explained in terms of their communicative function. Two examples are provided here (Glucksberg, 1993:13; Glucksberg, 2001: 72-73):

Speaker A: By and large, people are much better off now than they were five years ago.

Speaker B: By and not-so-large. Have you seen the latest figures on poverty and unemployment in urban areas?

Speaker A: Did the old man kick the bucket last night?

Speaker B: Nah, he barely nudged it.

Glucksberg claims that these variations are acceptable because “when an idiom’s constituents bear functional relations to the idiom’s meaning, then operations such as quantification, antonymy, and negation will be productive provided that plausible communicative intent can be inferred” (Glucksberg, 1993:14). In the first example above, the negation of large (not so large) is directly related to the idiomatic meaning ‘to a great extent’. Similarly, in the second example the close conceptual relations between *kick* and *barely nudge* are exploited and therefore map onto the idiomatic meaning ‘die’.

6.3.2 Grounding of idioms in human experience

The classification of idioms according to their source domains (sections 4.4.2 and 4.4.3) showed that the majority of Bahraini idioms are grounded in general human experience. In addition, we found that idioms grounded in general human experience are more familiar than those grounded in geo-culturally specific experience. This finding supports the idea that language is shaped by our cognition, culture, and conception of our ecological world (Dirven, 1994). Furthermore, grounding of idioms in human experience contributes to conceptual familiarity, i.e., some idioms are conceptually familiar partly because they are grounded in general human experience while others are conceptually unfamiliar because they are grounded in geo-culturally specific experience.

We also found in section 4.4.4 that the familiarity of the mappings differed across the three idioms types: normally decomposable, abnormally decomposable, and nondecomposable respectively. These findings provide empirical evidence that familiarity is actually associated with the conceptual familiarity (familiarity with the source domains and/or the mappings) rather than lexical familiarity with the idiom.

Since conceptual familiarity is closely related to experiential grounding, and since it varies across the three compositionality groups, this would mean that experiential grounding also varies across the three compositionality groups. Normally decomposable idioms might be seen as more experientially grounded than either abnormally or nondecomposable idioms. The more decomposable an idiom is, the more likely it is to be grounded in general human experience.

6.3.3 Motivation

We mentioned in section 1.8 that global motivation occurs when (1) the literal meaning as a whole is related to the figurative meaning as a whole; and (2) the constituents of an

idiom are related to their figurative interpretations (Geeraerts, 1995; 2003). Findings in this thesis suggest that global motivation is broadly related to conceptual familiarity. Both may be associated with the familiarity of the source domain (when the literal meaning as a whole is related to the figurative meaning as a whole) and/or the mappings between source and target domains (when the constituents of an idiom are related to their figurative interpretations). An idiom might be conceptually familiar because it is globally motivated, i.e., it has a familiar source domain and/or familiar mappings.

We also discussed in section 1.8 that motivation is cognitively related to analysability. For instance, analysability cannot exist without motivation while the opposite is possible (Langlotz, 2006). The same thing can be said about familiarity. Participants in this thesis judged Bahraini idioms as analysable (decomposable) when they were conceptually familiar (or we can say globally motivated) and unanalysable (nondecomposable) when they were conceptually unfamiliar (globally unmotivated).

We conclude here that although global motivation is broadly related to conceptual familiarity, the notion of familiarity, as proposed in this thesis, remains wider and more complex. Familiarity is divided into lexical and conceptual familiarity in this thesis, and hence global motivation is only related to one aspect of familiarity (conceptual familiarity) but not the other. Lexical familiarity refers to the frequency with which a word occurs in printed text (Gernsbacher, 1984). Therefore, lexical familiarity is limited to the familiarity with the lexical phrase regardless of whether the speaker knows the relation between the word at hand and its meaning or not. Lexical motivation is also important in idiom processing (as was discussed in section 2.4.2) which motivation cannot account for.

6.4 Limitations

Due to time constraints, the corpus of Bahraini idioms collected as part of this thesis consists of a relatively small number of idioms compared to the mass number of idioms found in Bahraini Arabic. However, findings in this thesis are as representative as previous studies (for example Gibbs and Nayak (1989) used 40 idioms; Tabossi et al. (2008) used 80 idioms). The idioms collected have various syntactic structures, for example, verb + object, prepositional, adjectival, etc. This limitation might have constrained the choice of idioms that could be used in experiments and particularly in the syntactic flexibility experiment, where we tried to choose idioms with syntactic structures that would allow most of the syntactic variations.

Furthermore, the syntactic flexibility experiment could not be run with Arabic speakers due to practical reasons. It would have been interesting to see how native speakers of the language judge the syntactic flexibility of idioms given that lexical and conceptual familiarity conflate. Therefore, the results might be overturned. One reason for this can be the Arabic speakers' high familiarity with the idioms (both lexically and conceptually). As a result, Arabic speakers might not easily accept varying the syntactic structure of idioms once they are used to an idiom in a certain syntactic form.

6.5 Future work

Many ideas emerged while working on this thesis but could not be investigated here.

These include:

- 1 Developing an electronic database of Bahraini idioms. This would form a valuable source for linguists who are interested in Bahraini idioms.

- 2 A detailed investigation of the universal conceptual metaphors found in English and Bahraini Arabic. It would shed light on how concepts in both languages are the same or different from one another.
- 3 An examination of the semantic structure of Bahraini idioms. This would help us identify the types of figuration involved in Bahraini idioms, for instance, metaphors, metonymies, hyperbole, etc.

In fact idioms will always remain a rich area for investigation because they are not seen as 'dead' anymore; rather they are alive and form an important way of conceptualizing our universe.

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Appendices

Appendix 1

Lists of Bahraini idioms as categorized by Bahraini speakers (Experiments 1 and 2)

Nondecomposable idioms

Idiom	Paraphrase
X's nose is cut off	X is tired of waiting
there's no water in X's ear	X is determined
X is a watermelon's seed	X slips away
X is the leader of the birds	X doesn't keep a secret
X is in my pocket	I can influence X
to hide it under the carpet	to keep it secret
X's head is not even beaten by a governor	X is stubborn
X's hand can't reach their mouth	X is stingy
X cut the thread	X died
to open the tile	to get money from nowhere
to have a slip with a fall	to do two things at the same time
X ties tails	X is tricky/ deceptive
X dried my blood	X exploited me
X is clenching his teeth	X is angry
X ate my face	X was very insistent
they took X north	X has died
X's hand has a hole	X is a squanderer

Normally decomposable idioms

Idiom	Paraphrase
to make a dome out of a seed	to exaggerate
X burst my liver	X made me angry
X's blood is light	X is witty
to walk on eggs	to walk slowly
to raise one's nose	to be a snob
to beat with the five	to eat with greediness
X's sound extinguished	X died
X doesn't know their elbow from their thumb's tip	X is ignorant
X has two faces	X is a hypocrite
God took X's soul	X died
X's blood is heavy	X is dumb/ stupid
X's hand is out of control	X is a squanderer

X's soul came out
 X extended their lips two spans
 to blow one's chest
 X's hand is white
 X's chest is tight
 X's shadow is light
 X gave you their age
 X's foot is near the grave
 to hold X by the painful arm
 to turn their deaf ear to us
 X's word is a nail in wood
 X neither shoos nor swats
 X burnt my heart
 X got out of their nature
 to play on both ropes
 X is my right arm
 X is barefoot and threadbare
 to put on oneself
 X wet the mud
 to widen one's chest
 hold your tongue
 to change air
 they can be counted on fingers
 level the road
 to open a new page
 my tongue is tied
 X's hand is short
 I'm in a valley and he's in another valley
 father from grandfather
 X makes Y crazy
 wherever I go, it's bent
 from the sweat of my forehead
 X's market has risen
 X's heart is carrying
 in sweetness and bitterness
 from your one hand to the other
 X's colors have changed
 the son of good respectable people
 her fate/ opportunity has come to her
 to put one's mind
 X is the latest bunch of grapes
 what is gone is dead
 my heart has stopped
 the (Quranic) verse is turned around
 it's between you and me
 X's the son of his mother
 X put in his mind/ heart

X is tired
 X is unhappy
 to be a snob
 X is generous
 X is unhappy
 X is witty
 X died
 X is very old
 X is powerless
 to ignore us
 X is a man of his word
 X is powerless
 X made me angry
 X got angry
 to double-deal
 X is my assistant
 X is poor
 to work hard
 X made things worse
 to be calm
 shut up
 to change the environment/ place
 they are very few
 give introductions/ facilitate the topic
 to reconcile
 I'm speechless
 X is stingy
 we are thinking/ talking about different things
 inherited / deeply rooted in the family
 Y thinks that X is very nice/ amazing
 I'm unlucky
 the result/ fruit of my own effort
 X became popular
 X is upset
 in good and bad situations
 at your service
 X's condition has changed
 a good person/ generous/ helpful
 a man proposed to her
 to pay attention
 X is the youngest child
 the situation has changed
 I'm very scared
 the situation is now reversed
 it's a secret
 X follows his mother in everything
 X was hurt/ got upset

my nerves were destroyed
 there are shapes and colors
 X eats the green and the dry
 X is the commander and the forbidded
 my soul was blocked
 X is a son/daughter of power (high standing)
 my wish was broken
 my mind is occupied/ busy
 X dried my saliva
 you sew and we'll wear it
 my hand's on my heart
 X is a son/daughter of yesterday
 X added wood to the fire
 X's hand is extended
 to extend one's legs
 in spite of X's nose
 behind X's back
 to cool X's heart
 X grabs the grain and leaves the sack
 X has a hard head
 X came to kohl her eyes, alas he made her blind
 X is a son/daughter of righteousness
 do you want the truth or its cousin?

I was very nervous
 there are many kinds/ a variety
 X is greedy
 X is the decision maker
 I lost my appetite
 X is rich
 I was emotionally hurt
 I'm worried
 I'm tired of insisting on X
 We're at your service
 I'm worried about the results
 X is young and inexperienced
 X made the situation worse
 X is generous
 to relax/ lie down
 in spite of X's will
 in X's absence/ without X knowing
 to relieve X of a burden
 X cares for foolish things
 X is stubborn
 X made the situation worse
 X is a good, helpful and generous person
 do you want the truth or a lie?

Abnormally decomposable idioms

Idiom	Paraphrase
X is a pain plaster	X joins somebody for a time
to play with one's tail	to be deceitful
X has a feather on their head	X is a snob/ better than the others
X is a low wall	X is a scapegoat
X is my hand's bread	I know X well
to stir and pour it	to do something at random
the sea has become deep	the task has got difficult
showed X the noon's stars	gave X a hard time
a stone's throw	very near
wipe your mouth	you won't get it
wash your hands of X	X is useless
X's hand is hard	X is stingy
X has feathers	X is rich
X has a wooden face	X is shameless
X's back is strong	X knows influential people
X ate my heart	X was very insistent
smoke is coming out of X	X is angry
X took us with a sail and paddle	X is angry

X's eyes are greedy
 X is torn apart
 it tastes sour in your mouth
 there are clouds in the sky
 to blow like the wind
 a head grew for X
 you will go like salt
 X missed the train
 give me your back
 put you in the picture
 X broke my paddles
 throw it in the sea
 X has only got the lice of his clothes
 the wood has fallen between X and Y
 to polish X
 I'm on my face
 X has a leg behind and a leg in front
 X has a hand behind and a hand in front
 ride the biggest horse you have
 X's hand is light
 it is done on a foot and a leg
 X burst my gall bladder
 bite your tongue
 X is a ring on Y's hand (finger)
 after X's eye
 there's no goat for me in the herd
 X gets along with all the currents
 X burst the clay vessel
 I washed his sail
 X is calling for prayer in ruins
 birds have flown with their pickings

X is greedy
 X is very happy
 you won't get it
 there are others who could overhear
 to be active
 X became important
 I am threatening you
 X lost the opportunity of getting married
 go away
 explain to you the topic as a whole
 X disappointed me
 it's useless
 X is poor
 they reconciled
 to flatter X
 I'm spontaneous/ natural
 X is hesitant
 X is empty-handed
 do your worst
 X is a skilled person/ a thief
 it is done systematically
 X made me angry
 shut up
 X is at Y's service
 after X's death
 it doesn't concern me
 X changes according to the situation
 X revealed the secret
 I scolded him
 no one is listening to X
 you are too late to gain from the situation

Decomposable but neither normally nor abnormally decomposable

Idiom
 throw it behind your back
 X is lost in the fuss
 the birds of my tummy are chirping

Paraphrase
 forget it
 X is bewildered
 I'm hungry

Appendix 2

Lists of Bahraini idioms as categorized by English speakers (Experiments 3 and 4)

Nondecomposable idioms

Idiom	Paraphrase
X burst my liver	X made me angry
X's blood is light	X is witty
to walk on eggs	to walk slowly
X's nose is cut off	X is tired of waiting
X is a pain plaster	X joins somebody for a time
to play with one's tail	to be deceitful
to beat with the five	to eat with greediness
X has a feather on their head	X is a snob/ better than the others
X is a low wall	X is a scapegoat
X is my hand's bread	I know X well
there's no water in X's ear	X is determined
to stir and pour it	to do something at random
showed X the noon's stars	gave X a hard time
wipe your mouth	you won't get it
X is a watermelon's seed	X slips away
X's hand is hard	X is stingy
X has feathers	X is rich
X's blood is heavy	X is dumb/ stupid
X has a wooden face	X is shameless
X's hand is out of control	X is a squanderer
X's soul came out	X is tired
X extended their lips two spans	X is unhappy
to blow one's chest	to be a snob
X's hand is white	X is generous
X is the leader of the birds	X doesn't keep a secret
X's chest is tight	X is unhappy
X's back is strong	X knows influential people
X's shadow is light	X is witty
X gave you their age	X died
X ate my heart	X was very insistent
to hold X by the painful arm	X is powerless
X took us with a sail and paddle	X is angry
X neither shoos nor swats	X is powerless
X's head is not even beaten by a governor	X is stubborn
X is torn apart	X is very happy
it tastes sour in your mouth	you won't get it
X's hand can't reach their mouth	X is stingy
there are clouds in the sky	there are others who could overhear

X got out of their nature
 to open the tile
 to blow like the wind
 a head grew for X
 you will go like salt
 to have a slip with a fall
 to widen one's chest
 X missed the train
 give me your back
 level the road
 X dried my blood
 X broke my paddles
 X's hand is short
 the wood has fallen between X and Y
 to polish X
 I'm on my face
 X's heart is carrying
 from your one hand to the other
 her fate/ opportunity has come to her
 X ate my face
 what is gone is dead
 they took X north
 X put in his mind/ heart
 X has a hand behind and a hand in front
 ride the biggest horse you have
 my soul was blocked
 X dried my saliva
 you sew and we'll wear it
 it is done on a foot and a leg
 my hand's on my heart
 X is a son/daughter of yesterday
 X burst my gall bladder
 in spite of X's nose
 after X's eye
 X grabs the grain and leaves the sack
 X came to kohl her eyes, alas he made her blind
 X burst the clay vessel
 I washed his sail
 X is calling for prayer in ruins

X got angry
 to get money from nowhere
 to be active
 X became important
 I am threatening you
 to do two things at the same time
 to be calm
 X lost the opportunity of getting married
 go away
 give introductions/ facilitate the topic
 X exploited me
 X disappointed me
 X is stingy
 they reconciled
 to flatter X
 I'm spontaneous/ natural
 X is upset
 at your service
 a man proposed to her
 X was very insistent
 the situation has changed
 X has died
 X was hurt/ got upset
 X is empty-handed
 do your worst
 I lost my appetite
 I'm tired of insisting on X
 We're at your service
 it is done systematically
 I'm worried about the results
 X is young and inexperienced
 X made me angry
 in spite of X's will
 after X's death
 X cares for foolish things
 X made the situation worse
 X revealed the secret
 I scolded him
 no one is listening to X

Neither decomposable nor nondecomposable

Idiom

there's no goat for me in the herd

Paraphrase

it doesn't concern me

Normally decomposable idioms

Idiom	Paraphrase
God took X's soul	X died
X's foot is near the grave	X is very old
X's eyes are greedy	X is greedy
to play on both ropes	to double-deal
X is barefoot and threadbare	X is poor
to put on oneself	to work hard
to change air	to change the environment/ place
throw it behind your back	forget it
X is lost in the fuss	X is bewildered
father from grandfather	inherited / deeply rooted in the family
from the sweat of my forehead	the result/ fruit of my own effort
X's market has risen	X became popular
in sweetness and bitterness	in good or bad situations
X's colors have changed	X's condition has changed
the son of good respectable people	a good person/ generous/ helpful
my heart has stopped	I'm very scared
the (Quranic) verse is turned around	the situation is now reversed
X's the son of his mother	X follows his mother in everything
there are shapes and colors	there are many kinds/ a variety
X is the commander and the forbiddler	X is the decision maker
X is a son/daughter of power (high standing)	X is rich
my wish was broken	I was emotionally hurt
X added wood to the fire	X made the situation worse
X's hand is extended	X is generous
to extend one's legs	to relax/ lie down
X is a son/daughter of righteousness	X is a good, helpful and generous person
do you want the truth or its cousin?	do you want the truth or a lie?

Abnormally decomposable idioms

Idiom	Paraphrase
X's sound extinguished	X died
X doesn't know their elbow from their thumb's tip	X is ignorant
the sea has become deep	the task has got difficult
smoke is coming out of X	X is angry
X's word is a nail in wood	X is a man of his word
X cut the thread	X died
X burnt my heart	X made me angry
X wet the mud	X made things worse
X ties tails	X is tricky/ deceptive

throw it in the sea
 X makes Y crazy
 X has only got the lice of his clothes
 wherever I go, it's bent
 X has a leg behind and a leg in front
 X is the latest bunch of grapes
 X's hand has a hole
 X eats the green and the dry
 X's hand is light
 the birds of my tummy are chirping
 X is a ring on Y's hand (finger)
 to cool X's heart
 birds have flown with their pickings

it's useless
 Y thinks that X is very nice/ amazing
 X is poor
 I'm unlucky
 X is hesitant
 X is the youngest child
 X is a squanderer
 X is greedy
 X is a skilled person/ a thief
 I'm hungry
 X is at Y's service
 to relieve X of a burden
 you are too late to gain from the situation

Decomposable but neither normally nor abnormally decomposable

Idiom

to make a dome out of a seed
 I'm in a valley and he's in another valley
 X gets along with all the currents

Paraphrase

to exaggerate
 we are thinking/ talking about different things
 X changes according to the situation

Appendix 3

Material used in Experiment 5 Normally decomposable idioms

Idiom	Syntactic operations
God took X's soul= X's life came to an end	Passive/ Active Adam's soul was taken by God in the second world war. Adam's life was brought to an end in the second world war. Adjective insertion God took Mary's precious soul after a long struggle with cancer. Mary's precious life came to an end after a long struggle with cancer. Adverb insertion God took Adam's soul suddenly and everyone in the family missed him very much. Adam's life suddenly came to an end and everyone in the family missed him very much. Pronominalisation Adam and his wife had an accident. God took Adam's soul but not hers. Adam and his wife had an accident. Adam's life came to an end but not hers.
To change air= to change the environment/ place	Passive/ Active The air was changed for the whole family when they went to the beach. The environment was changed for the whole family when they went to the beach. Adjective insertion Linda changed the stressful air by going out after finishing her exams. Linda changed the stressful environment by going out after finishing her exams. Adverb insertion Sara often changes air when she feels bored. Sara often changes the environment when she feels bored. Pronominalisation Linda changes air by going to Barcelona and Mark changes it, too. Linda changes the environment by going to Barcelona and Mark changes it, too.

Throw it behind your back= forget it	Passive/ Active Their dispute was thrown behind their back as soon as they saw the baby. Their dispute was forgotten as soon as they saw the baby. Adjective insertion She threw the depressing past behind her back so she could live happily. She forgot the depressing past so she could live happily. Adverb insertion Adam deliberately threw the insult behind his back to have a new start with Mary. Adam deliberately forgot the insult to have a new start with Mary. Pronominalisation Brad and Angelina were both criticised by the press. Brad threw the criticism behind his back but Angelina didn't throw it. Brad and Angelina were both criticised by the press. Brad forgot the criticism but Angelina didn't forget it.
To play on both ropes= to operate deceitfully	Passive/ Active Both ropes were played on by the witness who kept on giving inconsistent testimony. The witness was operating deceitfully by giving inconsistent testimony. Adjective insertion Sam plays on both friendship and marriage ropes. Sam operates deceitfully in friendship and marriage. Adverb insertion Harry always plays on both ropes to escape paying taxes. Harry always operates deceitfully to escape paying taxes. Pronominalisation Lucy and her sister are very charming. I heard that Lucy plays on both ropes with men, but her sister doesn't play on them. Lucy and her sister are very charming. I heard that Lucy operates deceitfully with men, but her sister doesn't.
From the sweat of my forehead= the result/ fruit of my own effort	Passive/ Active This huge project was accomplished from the sweat of John's forehead. This huge project was accomplished through John's own effort. Adjective insertion

	He earned all this money from the hardworking sweat of his forehead. He earned all this money through his own hardworking effort. Adverb insertion Sara bought the car purely from the sweat of her forehead. Sara bought the car purely from her own effort. Pronominalisation An honest person earns every penny from the sweat of his forehead, but a thief doesn't earn it from his. An honest person earns every penny from his own effort, but a thief doesn't earn it from his.
X's market has risen= X has become popular	Passive/ Active The girl's market was raised by her mother who kept on complimenting her daughter. The girl's popularity was increased by her mother who kept on complimenting her daughter. Adjective insertion Sara's marriage market rose as soon as she won the lottery. Sara's marriage popularity increased as soon as she won the lottery. Adverb insertion Susan Boyle's market suddenly rose when she appeared on Britain's Got Talent. Susan Boyle's popularity suddenly increased when she appeared on Britain's Got Talent. Pronominalisation Tom and Sara both won the speech competition. His market rose afterwards, but hers didn't. Tom and Sara both won the speech competition. His popularity increased afterwards, but hers didn't.
The (Quranic) verse is turned around= the situation is now reversed	Passive/ Active He used to be the listener and she used to be the speaker. However, he had to turn the verse around. He used to be the listener and she used to be the speaker. However, he had to reverse the situation. Adjective insertion John's parents used to be very rich, but the financial verse is turned around now. John's parents used to be very rich, but the financial situation is now reversed. Adverb insertion Mike's team used to be a leading football team, but the verse was suddenly turned around when their coach left.

	Mike's team used to be a leading football team, but the situation was suddenly reversed when their coach left. Pronominalisation Fred and Janet got low grades all through school. Fred turned the verse around in university but Janet didn't turn it around. Fred and Janet got low grades all through school. Fred reversed the situation in university by Janet didn't reverse it.
My wish was broken= I was emotionally hurt/ my feelings were hurt/ I was distressed	Passive/ Active Emma's dad broke her wish when he refused to let her go to the concert. Emma's dad hurt her feelings when he refused to let her go to the concert. Adjective insertion My fragile wish was broken when I heard that Sara and John got divorced. My fragile feelings were hurt when I heard that Sara and John got divorced. Adverb insertion The reporter's wish was deeply broken at the sight of starving children. The reporter was deeply distressed at the sight of starving children. Pronominalisation Tom and Emma have just heard about their uncle's illness. Tom's wish was broken, and hers, too. Tom and Emma have just heard about their uncle's illness. Tom was distressed, and she was, too.
X added wood to the fire= X made the situation worse	Passive/ Active Wood was added to the fire when Sara said she hid the letter on purpose. The situation was made worse when Sara said she hid the letter on purpose. Adjective insertion James added wood to the legal fire when he admitted accepting the bribe. James made the situation worse when he admitted accepting the bribe. Adverb insertion When Mary failed her exams, her brother accidentally added wood to the fire by telling their parents. When Mary failed her exams, her brother accidentally made the situation worse by telling their parents.

	Pronominalisation When they were caught, Jack began to add wood to the fire by lying to the police, but Lucy didn't begin it. When they were caught, Jack began to make the situation worse by lying to the police, but Lucy didn't begin it.
To extend one's legs= to relax/ lie down	Passive/ Active The nap did Mary good. At least her legs were extended. The nap did Mary good. At least her body was relaxed. Adjective insertion Tom extended his tired legs after a long walk on the beach. Tom relaxed his tired body after a long walk on the beach. Adverb insertion Tom usually extends his legs when he gets home after work. Tom usually relaxes his body when he gets home after work. Pronominalisation Mary and James were exhausted after the long trip. So, Mary went to bed to extend her legs, and James extended them, too. Mary and James were exhausted after the long trip. So, Mary went to bed to relax her body, and James relaxed his, too.

Abnormally decomposable idioms

Idiom	Syntactic operations
X's sound extinguished= X's life ended	Passive/ Active The soldier's sound was extinguished by friendly-fire. The soldier's life was ended by friendly-fire. Adjective insertion Mary's tragic sound extinguished after spending many years in prison. Mary's tragic life ended after spending many years in prison. Adverb insertion Michael's sound extinguished peacefully at the age of 80. Michael's life ended peacefully at the age of 80. Pronominalisation Tom and Mary took drugs in an attempt to commit suicide. Two hours later, Tom's sound

	extinguished, and hers, too. Tom and Mary took drugs in an attempt to commit suicide. Two hours later, Tom's life ended, and hers, too.
X cut the thread= X's life ended	Passive/ Active The thread was cut by grandma yesterday after a long illness. The life of grandma was ended yesterday after a long illness. Adjective insertion James cut the short thread last night. He was only 25 years old. James short life ended last night. He was only 25 years old. Adverb insertion John cut the thread unexpectedly while he was playing football. John's life unexpectedly ended while he was playing football. Pronominalisation Tom's house caught fire. His five children were sleeping. The children were trapped and they all cut the thread, but he didn't cut it. Tom's house caught fire. His five children were sleeping. The children were trapped and they all died, but he didn't die.
X burnt my heart= X made me angry	Passive/ Active My heart was burnt by his irresponsible behaviour. I was made angry by his irresponsible behaviour. Adjective insertion The theft of her engagement ring burnt her furious heart. The theft of her engagement ring made her furiously angry. Adverb insertion The child deliberately burnt his mum's heart by breaking the expensive vase. The child deliberately made his mum angry by breaking the expensive vase. Pronominalisation James and his daughters were watching the football match. The loss of his team burnt his heart but not theirs. James and his daughters were watching the football match. The loss of his team made him angry but not his daughters.
X wet the mud= X made things worse	Passive/ Active The mud was wetted for the company when their orders dropped by 30%.

	Things were made worse for the company when their orders dropped by 30%. Adjective insertion The government wet the financial mud for students by increasing university fees. The government made the financial situation worse for students by increasing university fees. Adverb insertion My car barely started this morning, and to additionally wet the mud, I got a flat tyre in the driveway. My car barely started this morning, and to additionally make things worse, I got a flat tyre in the driveway. Pronominalisation Whenever Dave and Susan argued, he began to wet the mud by shouting but she didn't begin it. Whenever Dave and Susan argued, he began to make things worse by shouting but she didn't begin it.
X ties tails= X is tricky/deceptive or makes unfulfilled promises	Passive/ Active The employees are unhappy because tails were tied by their manager. The employees are unhappy because promises were not fulfilled by their manager. Adjective insertion Sarah will never trust John again because he tied important tails throughout their relationship. Sarah will never trust John again because he was deceptive about important things throughout their relationship. Adverb insertion He looks like an honest man but he usually ties tails. He looks like an honest man but he is usually deceptive. Pronominalisation John and Susan were fired because John tied tails but Susan didn't tie them. She just followed John. John and Susan were fired because John made unfulfilled promises but Susan didn't make them. She just followed John.
Throw it in the sea= it's useless/ get rid of it/ forget it	Passive/ Active Some iPhone apps are good, but other should be thrown in the sea as soon as possible. Some iPhone apps are good, but other should be deleted as soon as possible. Adjective insertion Mike read an amazing book that made him throw

	his old ideas completely in the sea. Mike read an amazing book that made him completely forget his old ideas. Adverb insertion When you do a favour for someone, you should permanently throw it in the sea. Don't wait for something in return. When you do a favour for someone, you should permanently forget it. Don't wait for something in return. Pronominalisation Mary and John did a favour for their cousin last year. Mary threw it in the sea but John didn't throw it. Mary and John did a favour for their cousin last year. Mary forgot it but John didn't forget it.
X makes Y crazy= Y thinks that X is very nice/ amazing	Passive/ Active John was made crazy by Sara's new haircut. John was amazed by Sara's new haircut. Adjective insertion Chocolate makes Carrie totally crazy. Carrie totally loves chocolate. Adverb insertion My mum's cooking always makes our guests crazy. My mum's cooking always impresses our guests. Pronominalisation Catnip makes cats crazy but it doesn't make dogs. Cats love catnip but dogs don't.
Smoke is coming out of X= X is angry	Passive/ Active The smoke was made to come out of Jack by the delay in his flight. Jack was made angry by the delay in his flight. Adjective insertion Tremendous smoke will come out of her when she finds out what's been going on. Tremendous anger will be felt by her when she finds out what's been going on. Adverb insertion Smoke was still coming out of her the next morning after what Larry said. She was still angry the next morning after what Larry said. Pronominalisation Mum and dad arrived home to see the mess we've made in the kitchen. Smoke started coming out of her but not of him. Mum and dad arrived home to see the mess

	we've made in the kitchen. She became angry but not him.
X eats the green and the dry= X is greedy	Passive/ Active The director was accused of embezzlement. The green and the dry were eaten by him. The director was accused of embezzlement. He was very greedy. Adjective insertion Little Sam loves chocolate. He ate all the green and the dry. Little Sam loves chocolate. He was greedy and ate all the chocolate. Adverb insertion The boss vigorously ate the green and the dry; he awarded himself a big pay rise. The boss vigorously satisfied his greed; he awarded himself a big pay rise. Pronominalisation Tom and Harry were partners in the theft. Tom ate the green and the dry, and Harry ate them, too. Tom and Harry were partners in the theft. Tom was greedy, and Harry was greedy, too.
To cool X's heart= to relieve X of a burden	Passive/ Active The mother's heart was cooled when she knew that her son was not hurt in the accident. The mother felt relieved when she knew that her son was not hurt in the accident. Adjective insertion The news about salary increase cooled the workers' distressed hearts. The news about salary increase relieved the distressed workers. Adverb insertion The departure of the scary dog rapidly cooled the boy's heart. The departure of the scary dog rapidly relieved the boy. Pronominalisation John and Mary received letters from their families. The letter cooled John's heart but not hers. John and Mary received letters from their families. The letter relieved John but didn't relieve Mary.

Nondecomposable idioms

Idiom	Syntactic operations
X burst my liver= X made me angry	Passive/ Active The husband's liver was burst by his wife's impulsive shopping habit. The husband was made angry by his wife's impulsive shopping habit. Adjective insertion The repeated breakdown of his Mercedes burst George's patient liver. Therepeated breakdown of his Mercedes made patient George angry. Adverb insertion England's poor performance in the World Cup repeatedly burst my liver. England's poor performance in the World Cup repeatedly made me angry. Pronominalisation John and Mary's lawyer submitted an appeal to the court which was later rejected. The rejection burst the lawyer's liver but not theirs. John and Mary's lawyer submitted an appeal to the court which was later rejected. The rejection made the lawyer angry but not John and Mary.
X's nose is cut off= X is tired of waiting	Passive/ Active The long cooking time of the turkey cut the guests' noses. The long cooking time of the turkey made the guests tired of waiting. Adjective insertion The kids' eager noses were cut off by the long queues in the theme park. The eager kids were tired of waiting because of the long queues in the theme park. Adverb insertion George has been looking for a job for over two years. His nose is absolutely cut off. George has been looking for a job for over two years. He is absolutely tired of waiting. Pronominalisation The grandfather and the kids are looking forward to spending the summer in Spain. The kid's noses are cut off, and his too. The grandfather and the kids are looking forward to spending the summer in Spain. The kids are tired of waiting and he is too.

X extended their lips two spans= X is unhappy	Passive/ Active Tom's lips are extended two spans because his dog died. Tom feels unhappy because his dog died. Adjective insertion Gloomy people extend their lips two spans when they see people they know in public. Gloomy people feel unhappy when they see people they know in the public. Adverb insertion Josh is very intelligent. That's why he always extends his lips two spans when he fails to do something. Josh is very intelligent. That's why he always feels unhappy when he fails to do something. Pronominalisation When I told Mary and Tom that we were not going to the cinema, Mary extended her lips two spans but Tom didn't extend his. When I told Mary and Tom that we were not going to the cinema, Mary was unhappy but Tom was not.
To blow one's chest= to be a snob	Passive/ Active He would normally buy the most expensive item so that his chest is blown. He would normally buy the most expensive item so that he becomes a snob. Adjective insertion He tries to read a novel a week to blow his intellectual chest. He tries to read a novel a week to become an intellectual snob. Adverb insertion Rich people often blow their chests, yet they complain about money. Rich people are often snobbish, yet they complain about money. Pronominalisation Everyone was complimenting John and Mary's beautiful house. She blew her chest but he didn't blow it. Everyone was complimenting John and Mary's beautiful house. She became a snob but he didn't.
X ate my heart= X was very insistent	Passive/ Active The secretary called me 4 times this morning just to remind me about the meeting. My heart was eaten. The secretary called me 4 times this morning just to remind me about the meeting. She was very insistent.

	Adjective insertion Jack ate Danielle's stubborn heart in order to make her accept his viewpoint. Jack was insistent with stubborn Danielle in order to make her accept his viewpint. Adverb insertion The children often eat my heart for me to buy them what they want. The children are often insistent for me to buy them what they want. Pronominalisation My husband promised my daughter he would play with her. Therefore, she ate his heart and not mine. My husband promised my daughter he would play with her. Therefore, she was insistent on him and not me.
To hold X by the painful arm= X is powerless or to disempower someone	Passive/ Active Sara was held by the painful arm when John told her that he would take the children away from her. Sara was powerless when John told her that he would take the children away from her. Adjective insertion The mounting bills held Lucy by the painful financial arm. The mounting bills made Lucy financially powerless. Adverb insertion The lecturer sometimes holds students by the painful arm by threatening to deduct marks for not attending. The lecturer sometimes disempowers students by threatening to deduct marks for not attending. Pronominalisation I told my parents that I would leave the house if they didn't allow my boyfriend to stay. I held dad by the painful arm, and I held mum by it, too. I told my parents that I would leave the house if they don't allow my boyfriend to stay. Dad was powerless, and mum, too.
X took us with a sail and paddle= X is angry or lose one's temper	Passive/ Active Tom was taken with a sail and paddle as soon as the teacher saw him cheating. The teacher's temper was lost with Tom as soon as she saw him cheating. Adjective insertion He took us with an awful sail and paddle when we mentioned selling the house. He lost his awful temper when we mentioned

	selling the house. Adverb insertion When we make mistakes, dad always takes us with a sail and paddle. When we make mistakes, dad always loses his temper. Pronominalisation The house was in a complete mess when my parents got home. Mum took us with a sail and paddle, and dad took us with them, too. The house was in a complete mess when my parents got home. Mum lost her temper with us, and dad lost his, too.
Level the road= give introductions/ facilitate the topic	Passive/ Active I couldn't tell dad about my engagement, so the road was levelled by mum. I couldn't tell dad about my engagement, so the topic was facilitated by mum. Adjective insertion It's difficult to open up to a psychiatrist, so he or she should level the sensitive road. It's difficult to open up to a psychiatrist, so he or she should facilitate the sensitive topic. Adverb insertion Andrew hated networking at business meetings, but his boss enthusiastically levelled the road. Andrew hated networking at business meetings, but his boss enthusiastically facilitated the topic. Pronominalisation Sara and Tom were sent to a conference to recruit new clients. Sara levelled the road by buying coffees for people, and Tom levelled it by handing out business cards. Sara and Tom were sent to a conference to recruit new clients. Sara facilitated the topic by buying coffees for people, and Tom facilitated it by handing out business cards.
X broke my paddles= X disappointed me/ let me down	Passive/ Active The entire cast of the play was waiting for Tom. Luckily, their paddles were not broken by him. The entire cast of the play was waiting for Tom. Luckily, they were not disappointed by him. Adjective insertion When Steve lost a multimillion-pound client, he broke the company paddles. When Steve lost a multimillion-pound client, he let the company down. Adverb insertion The voters suddenly broke John's paddles after they had promised to elect him.

	The voters suddenly disappointed John after they had promised to elect him. Pronominalisation My application was rejected by the bank and the finance company. The bank broke my paddles, and the finance company broke them, too. My application was rejected by the bank and the finance company. The bank let me down, and the finance company let me down, too.
My soul was blocked= I lost my appetite	Passive/ Active The sight of the cockroach blocked my soul. The sight of the cockroach made me lose my appetite. Adjective insertion Sara's sensitive soul was blocked because she ate a lot of chocolate before lunch. Sara's sensitive appetite was lost because she ate a lot of chocolate before lunch. Adverb insertion His soul was completely blocked after that gory movie. His appetite was completely lost after that gory movie. Pronominalisation After Mary and James quarrelled, Mary's soul was blocked but his wasn't. After Mary and James quarrelled, Mary's appetite was lost but James' wasn't.

Appendix 4

The complete list of Bahraini idioms categorized according to the type of experience

Idioms grounded in general human experience

Idiom	Figurative meaning	Source Domain	Target Domain
X burst my liver	X made me angry	Human body	Emotion
X's blood is light	X is witty	Human body	Morality
To raise one's nose	To be a snob	Human body	Morality
X's nose is cut off	X is tired of waiting	Human body	Emotion
X is a pain plaster	X joins somebody for a time	Health and illness	Human relationships
To beat with the five	To eat with greediness	Human body	Events and actions
X's sound extinguished	X died	Human body	Life and death
X has a feather on their head	X is a snob/ better than the others	Human body	Human relationships
There's no water in X's ear	X is determined	Human body	Morality
X doesn't know their elbow from their thumb's tip	X is ignorant	Human body	Morality
Showed X the noon's stars	Gave X a hard time	Light and darkness	Events and actions
A stone's throw	Very near	Movement and direction	Events and actions
X has two faces	X is a hypocrite	Human body	Morality
Wipe your mouth	You won't get it	Human body	Events and actions
Wash your hands of X	X is useless	Human body	Morality
X's hand is hard	X is stingy	Human body	Morality
God took X's soul	X died	Movement and direction	Life and death
X's blood is heavy	X is dumb/ stupid	Human body	Morality
X has a wooden face	X is shameless	Human body	Morality
X's hand is out of control	X is a squanderer	Human body	Economy
X's soul came out	X is tired	Human body	Emotion
X extended their lips two spans	X is unhappy	Human body	Emotion
To blow one's chest	To be a snob	Human body	Morality
X's hand is white	X is generous	Human body	Morality
X's chest is tight	X is unhappy	Human body	Emotion
X's back is strong	X knows influential people	Human body	Human relationships
X's shadow is light	X is witty	Light and darkness	Morality
X gave you their age	X died	Movement and direction	Life and death

Idiom	Figurative meaning	Source Domain	Target Domain
X ate my heart	X was very insistent	Human body	Human relationships
Smoke is coming out of X	X is angry	Heat and cold	Emotion
X's foot is near the grave	X is very old	Human body	Life and death
X is in my pocket	I can influence X	Human body	Human relationships
To hold X from the painful arm	X is powerless	Human body	Human relationships
To hide it under the carpet	To keep it secret	Movement and direction	Morality
To turn their deaf ear to us	To ignore us	Human body	Morality
X took us with a sail and paddle	X is angry	Movement and direction	Morality
X's eyes are greedy	X is greedy	Human body	Morality
X neither shoos nor swats	X is powerless	Movement and direction	Human relationships
X's head is not even beaten by a governor	X is stubborn	Human body	Morality
X is torn apart	X is very happy	Movement and direction	Emotion
It tastes sour in your mouth	You won't get it	Human body	Events and actions
X's hand can't reach their mouth	X is stingy	Human body	Morality
X cut the thread	X died	Movement and direction	Life and death
There are clouds in the sky	There are other who could overhear	Light and darkness	Morality
X burnt my heart	X made me angry	Human body	Emotion
X got out of their nature	X got angry	Movement and direction	Emotion
X is my right arm	X is my assistant	Human body	Human relationships
To blow like the wind	To be active	General Forces	Morality
X is barefoot and threadbare	X is poor	Human body	Economy
A head grew for X	X became important	Human body	Events and actions
To have a slip with a fall	To do two things at the same time	Movement and direction	Morality
To put on oneself	To work hard	Movement and direction	Morality
X wet the mud	X made things worse	Movement and direction	Events and actions
To widen one's chest	To be calm	Human body	Emotion
X missed the train	X lost the opportunity of getting married	Movement and direction	Human relationships
Give me your back	Go away	Movement and direction	Events and actions
Hold your tongue	Shut up	Human body	Communication

Idiom	Figurative meaning	Source Domain	Target Domain
To change air	To change the environment/ place	Movement and direction	Events and actions
They can be counted on fingers	They are very few	Human body	Events and actions
Level the road	Give introductions/ facilitate the topic	Movement and direction	Communication
X dried my blood	X exploited me	Human body	Morality
Throw it behind your back	Forget it	Human body	Emotion
Put you in the picture	Explain to you the topic as a whole	Movement and direction	Communication
To open a new page	To reconcile	Movement and direction	Human relationships
X broke my paddles	X disappointed me	Movement and direction	Emotion
Throw it in the sea	It's useless	Movement and direction	Morality
My tongue is tied	I'm speechless	Human body	Emotion
X is lost in the fuss	X is bewildered	Movement and direction	Emotion
X is clenching his teeth	X is angry	Human body	Emotion
X's hand is short	X is stingy	Human body	Morality
I'm in a valley and he's in another valley	We are thinking/ talking about different things	Movement and direction	Communication
Father from grandfather	Inherited/ deeply rooted in the family	Movement and direction	Human relationships
X makes Y crazy	Y thinks that X is very nice/ amazing	Health and illness	Events and actions
Wherever I go, it's bent	I'm unlucky	Movement and direction	Events and actions
From the sweat of my forehead	The result/ fruit of my own effort	Human body	Events and actions
The wood has fallen between X and Y	They reconciled	Movement and direction	Human relationships
To polish X	To flatter X	Movement and direction	Morality
I'm on my face	I'm spontaneous/ natural	Human body	Morality
X's heart is carrying	X is upset	Human body	Emotion
From your one hand to the other	At your service	Human body	Human relationships
X's colors have changed	X's condition has changed	Health and illness	Events and actions
The son of good respectable people	A good person/ generous/ helpful	Family relatives	Morality
Her fate/ opportunity has come to her	A man proposed to her	Movement and direction	Human relationships
X has a leg behind and a leg in front	X is hesitant	Human body	Emotion
To put one's mind	To pay attention	Movement and direction	Events and actions

Idiom	Figurative meaning	Source Domain	Target Domain
X ate my face	X was very insistent	Human body	Human relationships
What is gone is dead	The situation has changed	Health and illness	Events and actions
My heart has stopped	I'm very scared	Human body	Emotion
The (Quranic) verse is turned around	The situation is now reversed	Movement and direction	Events and actions
It's between you and me	It's a secret	Movement and direction	Morality
They took X north	X has died	Movement and direction	Life and death
X's hand has a hole	X is a squanderer	Human body	Morality
X's the son of his mother	X follows his mother in everything	Family relatives	Events and actions
X put in his mind/ heart	X was hurt/ got upset	Movement and direction	Emotion
My nerves were destroyed	I was very nervous	Human body	Emotion
X has a hand behind and a hand in front	X is empty-handed	Human body	Events and actions
There are shapes and colors	There are many kinds/ a variety	Natural objects	Events and actions
Ride the biggest horse you have	Do your worst	Movement and direction	Events and actions
My soul was blocked	I lost my appetite	Health and illness	Desire
X is a son/daughter of power (high standing)	X is rich	Family relatives	Economy
My wish was broken	I was emotionally hurt	Movement and direction	Emotion
X's hand is light	X is a skilled person/ a thief	Human body	Events and actions
My mind is occupied/ busy	I'm worried	Human body	Emotion
X dried my saliva	I'm tired of insisting on X	Human body	Emotion
You sew and we'll wear it	We're at your service	Movement and direction	Human relationships
It is done on a foot and a leg	It is done systematically	Human body	Events and actions
My hand's on my heart	I'm worried about the results	Human body	Emotion
X is a son/daughter of yesterday	X is young and inexperienced	Family relatives	Life and death
X added wood to the fire	X made the situation worse	Heat and cold	Events and actions
X's hand is extended	X is generous	Human body	Morality
X burst my gall bladder	X made me angry	Human body	Emotion
Bite your tongue	Shut up	Human body	Communication
X is a ring on Y's hand (finger)	X is at Y's service	Human body	Human relationships

Idiom	Figurative meaning	Source Domain	Target Domain
To extend one's legs	To relax/ lie down	Human body	Events and actions
In spite X's nose	In spite of X's will	Human body	Human relationships
Behind X's back	In X's absence/ without X knowing	Human body	Human relationships
After X's eye	After X's death	Human body	Life and death
To cool X's heart	To relieve X of a burden	Human body	Events and actions
X has a hard head	X is stubborn	Human body	Morality
X came to kohl her eyes, alas he made her blind	X made the situation worse	Human body	Events and actions
X gets along with all the currents	X changes according to the situation	General Forces	Events and actions
X burst the clay vessel	X revealed the secret	Movement and direction	Morality
I washed his sail	I scolded him	Movement and direction	Human relationships
X is a son/daughter of righteousness	X is a good, helpful and generous person	Family relatives	Morality
Do you want the truth or its cousin?	Do you want the truth or a lie?	Family relatives	Morality
X eats the green and the dry	X is greedy	Human body	Morality

Idioms grounded in geo-culturally specific experience

Idiom	Figurative meaning	Source Domain	Target Domain
To make a dome out of a seed	To exaggerate	Plants	Communication
To walk on eggs	To walk slow	Cooking and food	Events and actions
To play with one's tail	To be deceitful	Animals	Morality
X is my hand's bread	I know X well	Cooking and food	Human relationships
To stir and pour it	To do something at random	Cooking and food	Communication
The sea has become deep	The task has got difficult	Specific Forces	Thought
X is a watermelon's seed	X slips away	Plants	Morality
X has feathers	X is rich	Animals	Economy
X is he leader of the birds	X doesn't keep a secret	Animals	Morality
To play on both ropes	To double-deal	Games and sport	Morality
You will go like salt	I'm threatening you	Cooking and food	Emotion
X ties tails	X is tricky/ deceptive	Animals	Morality
X has only got the lice of his clothes	X is poor	Animals	Economy
X's market has risen	X became popular	Economic transactions	Human relationships

Idiom	Figurative meaning	Source Domain	Target Domain
In sweetness and bitterness	In good or bad situations	Cooking and food	Morality
X is the latest bunch of grapes	X is the youngest child	Plants	Human relationships
The birds of my tummy are chirping	I'm hungry	Animals	Desire
X grabs the grain and leaves the sack	X cares for foolish things	Plants	Morality
There's no goat for me in the herd	It doesn't concern me	Animals	Events and actions
X is calling for prayer in ruins	No one is listening to X	Religion	Human relationships
Birds have flown with their pickings	You are too late to gain from the situation	Animals	Time
X is a low wall	X is a scapegoat	Buildings and construction	Human relationships
X's word is a nail in wood	X is a man of his word	Buildings and construction	Morality
To open the tile	To get money from nowhere	Buildings and construction	Economy
X is the commander and the forbiddler	X is the decision maker	Military	Human relationships

Appendix 5

A list of idioms with the familiarity with their mappings

Abnormally decomposable idioms

Idiom	Figurative meaning	Type of Experience	Familiarity of mappings
X's sound extinguished	X died	General	Familiar
X doesn't know their elbow from their thumb's tip	X is ignorant	General	Familiar
The sea has become deep	The task has got difficult	Geocultural	Familiar
Smoke is coming out of X	X is angry	General	Familiar
X's word is a nail in wood	X is a man of his word	Geocultural	Unfamiliar
X cut the thread	X died	General	Familiar
X burnt my heart	X made me angry	General	Unfamiliar
X wet the mud	X made things worse	General	Unfamiliar
X ties tails	X is tricky/ deceptive	Geocultural	Unfamiliar
Throw it in the sea	It's useless	General	Familiar
X makes Y crazy	Y thinks that X is very nice/ amazing	General	Familiar
X has only got the lice of his clothes	X is poor	Geocultural	Unfamiliar
Wherever I go, it's bent	I'm unlucky	General	Unfamiliar
X has a leg behind and a leg in front	X is hesitant	General	Unfamiliar
X is the latest bunch of grapes	X is the youngest child	Geocultural	Unfamiliar
X's hand has a hole	X is a squanderer	General	Unfamiliar
X eats the green and the dry	X is greedy	General	Unfamiliar
X's hand is light	X is a skilled person/ a thief	General	Familiar
The birds of my tummy are chirping	I'm hungry	Geocultural	Unfamiliar
X is a ring on Y's hand (finger)	X is at Y's service	General	Unfamiliar
To cool one's heart	To relieve X of a burden	General	Unfamiliar
Birds have flown with their pickings	You are too late to gain from the situation	Geocultural	Unfamiliar

Normally decomposable idioms

Idiom	Figurative meaning	Type of Experience	Familiarity of mappings
God took X's soul	X died	General	Familiar
X's foot is near the grave	X is very old	General	Familiar
X's eyes are greedy	X is greedy	General	Familiar
To play on both ropes	To double-deal	Geocultural	Familiar
To put on oneself	To work hard	General	Unfamiliar
To change air	To change the environment/ place	General	Familiar
Throw it behind your back	Forget it	General	Familiar
X is lost in the fuss	X is bewildered	General	Unfamiliar
From the sweat of my forehead	The result/ fruit of my own effort	General	Familiar
X's market has risen	X became popular	Geocultural	Familiar
In sweetness and bitterness	In good or bad situations	Geocultural	Familiar
X's colors have changed	X's condition has changed	General	Unfamiliar
My heart has stopped	I'm very scared	General	Familiar
The (Quranic) verse is turned around	The situation is now reversed	General	Familiar
X's the son of his mother	X follows his mother in everything	General	Familiar
There are shapes and colors	There are many kinds/ a variety	General	Unfamiliar
X is a son/daughter of power (high standing)	X is rich	General	Unfamiliar
My wish was broken	I was emotionally hurt	General	Familiar
X added wood to the fire	X made the situation worse	General	Familiar
X's hand is extended	X is generous	General	Unfamiliar
X is a son/daughter of righteousness	X is a good, helpful and generous person	General	Unfamiliar
Do you want the truth or its cousin?	Do you want the truth or a lie?	General	Unfamiliar

Nondecomposable idioms

Idiom	Figurative meaning	Type of Experience	Familiarity of mappings
X burst my liver	X made me angry	General	Familiar
X's nose is cut off	X is tired of waiting	General	Unfamiliar
To beat with the five	To eat with greediness	General	Unfamiliar
X is my hand's bread	I know X well	Geocultural	Unfamiliar
Showed X the noon's stars	Gave X a hard time	General	Unfamiliar

Idiom	Figurative meaning	Type of Experience	Familiarity of mappings
X's hand is hard	X is stingy	General	Unfamiliar
X has a wooden face	X is shameless	General	Unfamiliar
X extended their lips two spans	X is unhappy	General	Familiar
X is the leader of the birds	X doesn't keep a secret	Geocultural	Unfamiliar
X's shadow is light	X is witty	General	Unfamiliar
To hold X by the painful arm	X is powerless	General	Unfamiliar
X's head is not even beaten by a governor	X is stubborn	General	Unfamiliar
X's hand can't reach their mouth	X is stingy	General	Unfamiliar
To open the tile	To get money from nowhere	General	Unfamiliar
You will go like salt	I'm threatening you	Geocultural	Unfamiliar
X missed the train	X lost the opportunity of getting married	General	Familiar
X dried my blood	X exploited me	General	Unfamiliar
The wood between X and Y has fallen	They reconciled	General	Unfamiliar
X's heart is carrying	X is upset	General	Unfamiliar
X ate my face	X was very insistent	General	Unfamiliar
X put in his mind/ heart	X was hurt/ got upset	General	Unfamiliar
My soul was blocked	I lost my appetite	General	Unfamiliar